

E.N.I.G.M.A.

EUROPEAN NUMBERS INFORMATION GATHERING &
MONITORING ASSOCIATION

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IN THIS ISSUE OF ENIGMA

'FADERS' TRANSMITTER SITE LOCATED'
MURDER SHEDS LIGHT ON SPIES IN VATICAN
'SWEDISH RHAPSODY' - NEW REVELATIONS



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◆ INTRODUCTION

ENIGMA is the journal of the European Numbers Information Gathering and Monitoring Association.

ENIGMA is a non-profit making association of listeners who monitor and gather information on "Number Stations" and other related radio transmissions. ENIGMA aims to bring together listeners and enthusiasts and provide quality information on subjects not normally available from main-stream publications. In addition to our dedicated private readership ENIGMA is also purchased by Government agencies and overseas Embassies and Security Services.

We aim to bring you the most accurate information available. The newsletter covers the preceding 3/4 months monitoring so is always "up to date" when published, but due to the nature of the subject, schedules, operating patterns and habits are subject to change without notice!

◆ CONTRIBUTIONS

We appreciate all contributions to the newsletter, especially from Europe, the Middle East, Far East & CIS, but all are welcome (including anonymous information). We regret that owing to the amount of information received we are not always able to provide a personal reply but, rest assured, we read, collate and index all information for present and future use. What may seem insignificant today may prove invaluable at a later date. Questions are mainly answered via our "Letters to ENIGMA" pages in the Newsletter. ENIGMA is also a discussion forum and we welcome comments about the newsletter, and "Numbers" monitoring in general.

◆HOW YOU CAN HELP ENIGMA

In addition to your logs and letters we also collect 'cuttings' and information about espionage for use in features. We need more Morse monitors and also readers who would be interested in concentrating on particular stations, either voice or Morse in order to learn more about their 'habits'. We are particularly keen to learn about transmitter sites in any country. If you are going on holiday please let us know what you heard, and if you are interested in writing a feature please contact our office.

◆ SUBSCRIPTIONS

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◆ ACKNOWLEDGEMENTS

Information in ENIGMA may be reproduced, but please mention ENIGMA and if possible the originator of the article. We would appreciate any cuttings in which ENIGMA is mentioned.

◆ CONTRIBUTION DEADLINE

We aim to publish the next edition of ENIGMA in December 1998. Contributions would be appreciated by Saturday 14th November. Thank you.

◆COVER ISSUE 15

Illustration - "Trouble with the Swiss Guards at The Vatican". See News Round Up.

STATION NEWS

As announced in the last issue, the new combined Morse/voice reporting system is now being used. As a logical extension of this, stations will now be listed according to family (if known) rather than language/Morse. We will still use the same ENIGMA reference numbers, but now they will be listed under their respective family headings. To distinguish one family from another we have named them as far as possible after their country of origin, and given them each a number - in Roman numerals. (Individuals, or stations with no known family relationship are given the notation '0' - and can always be allocated to a family at a later date if necessary).

Many of you, being used to the old system, may object to these radical changes, but in time we hope you'll see the advantages of being able to gauge more clearly the overall activity of particular agencies. Many of our members find it difficult to relate one station with another in the same family. Many stations also share habits with other family members. We are convinced that, once acquainted with this new system, numbers stations will be better understood and more easily found.

Known families

Only families/stations active at present are listed here. For fuller information see our Control List.

I a	CIS	M14 (incl.M24) E6 E17? G6 S6 V6 // S25
b	CIS	M12 E7 G7 S7 V7 // XP
II	USA	E5 V5
III	'Strich'	M3 E11 G11 S12
VI	Germany	E16 G16
VII	'Aida'	E1? M17?
VIII	'YT'	M53?
IX a	Czech	M10 S10// M7
c	Czech	S17
0	Czech	M39 (a one-off: <u>may</u> be IXa,c or neither)
X	British	E3 E4
XI	'Swedish Rhapsody'	M4 // E23
XII	Arabic	E9 V8
XIII	'3 note oddity'	Hungary M29 G4
XIV	'M1 family'	M1 M45 S21
XV	'Edna Sednitzer'	M13 E18 G22
XVI	Romania?	M63? (A2A)
XVIII	Cuban	M8 V2
XIX	France	M16 // M51

(// indicates that the following station is not a direct equivalent of those preceding)

0 M18 M21 M22 (4XZ Israel) M23 M26/34 M42 M52 M56 MX
E10 E15 S13 S14 S28 V9 V13 V15 V20 V21 X6 XC XF XM XX

Other (rarer) stations in category 0 - especially Morse - are likely to be active. Major

losses over the past year have been the whole of Family IV (E12/M2), the sub-Family IXb (OLX), and what seems to be the last of Swedish Rhapsody, G2 - of which more later.

The station news which follows isn't as detailed as we would wish it to be. This is due to a backlog of schedule information which still needs processing. As usual, all we do is give an idea of the level of activity. Please don't write in and say that there aren't enough frequencies and times listed. The reasons are, as we've said before: 1. Many stations simply don't lend themselves to this approach - they don't behave like broadcast stations. 2. Many schedules running at present will be out of date by the time you read this. It is up to monitors to keep track of these. This is what we have to do. It's not always easy, but once the habits of a station are properly understood it usually presents no great problem. 3. Some stations' schedules don't follow predictable cycles, so it's a matter of luck when a new one is found. 4. The booklet should help a great deal in the understanding of Numbers Stations. 5. We don't intend to repeat the same information from one issue to the next, as there is far too much of greater importance to cover.

Lastly, the aim of ENIGMA is not primarily to publish 'times and frequencies' - even if it were easier to do so. Our aim is to investigate Numbers Stations from every angle. In this way we differ from the run-of-the-mill 'utility/broadcast listing' style. We serve a wider readership than merely hobbyist shortwave listeners. Such SWLs expecting to be told just when and where to locate particular numbers stations, however, are unlikely to find information of comparable quality in any other publication.

This is our first attempt at using this new system, and it is by no means perfect yet. In the next issue it is our aim to have all the station information fully integrated. Apologies for the teething problems.

FAMILY I - Note. This is a very large family. Full details of its activity would fill this newsletter. Transmissions are tailored to the recipients' requirements and schedules are very flexible. Many are weekly, some week-of-month, some monthly. Some schedules are inter-related, and share the same messages at times. The information given below is very brief, and not complete. A series of features on this family is really needed, but due to lack of time we don't know when this will be. Collating logs, unravelling schedules and traffic analysis is very time consuming. A few pages of results don't obviously reflect the many hours of preparation. These comments apply to many other stations also.

FAMILY Ia

The big news concerns S25. After years of daily transmissions these have now been reduced to weekly - on Mondays only. Same schedule (615): 0800 14890kHz, moving at 0820 to 11270kHz. Also, the complex variant formats, S25A & B, have not been heard for a year now. Presumably the reduction in operation means that 'messages' of S25 are less urgent, or that the number of recipients has been much reduced.

Does one 'message' serve for the whole week now?

M14 - Some schedules this year so far: 143 168? 177 202 203 311 325 362 396 412 464 491(slow MCW) 494 ?514 517 541 560 571 591 631 633 738 786 863. Interestingly, 203 never includes null messages, and is a much longer schedule than most, having been running since February, and still here. This one transmits Wed & Thu 1800 & 1900 - the latter time being on a lower freq. - a common feature of M14. New message each week, three repeats. Schedule numbers (IDs) in this subfamily are time-dependent only - not freq.-dependent. Most Ib schedules are both.

Two of the above, 464 & 863, use the five spaced zero ending, pausing between each zero. (once known as M24) The reason for this is unknown. Schedule 560 always seems to send double messages. Here are its DK/GCs recently: 1st May 319/82,422/61; 15th May 438/71,439/72 (is this a joke?!); 22nd May 349/71,891/72; 5th June 143/70,981/72. Only the 1st May transmission seems realistic. Note the very similar GCs, and those transposed DKs 439-349,891-981, and consecutive DKs 438/439. What on earth is going on here? Perhaps it's all to stimulate speculation within the monitoring agencies!

E6 - Schedules so far: 129 194 204 206 237 284 291 295 308 314 320 394 471 478 482 506 592 609 614 641 682 683 702 709 715 735 738 821 ?825 843 856 915 ?946. 715 has been running all year so far. Best times: 18-2200 all days of week.

E6B - (NEW DESIGNATION) A new variant format was logged on 5th February with call beginning at 2040 on 3820. "129 129 129 74326" At 2044: "573 573 24 24" then 24 x 5F as usual, 2573 573 24 24", then "129" repeated for about a minute, and "308 308 16 16" and 16 x 5F message, ending 308 308 16 16 00000 as usual. A double message on schedule 129 (a one-off schedule?), but what does the 5f call group represent?

?E17 - Not often logged in Europe due to its preference for the early hours of the morning. Sparse logs include: Mon 0200 7775, Mon 0410 7944, Fri 0200 5208, Fri 0300 4518, Sun 0400 6250, Sat 0700 7035 - in amateur band. Although E17's format is identical to the others in this subfamily, its habits (including scheduling) and technical quality are quite different. All other family members are noted for their reliability and excellent transmission quality. ID s this year: 167 247 989 ???.

G6 - Schedules so far processed: 076 907 Best times: ~~Mon 19/2000~~, 1900 & 2000 1st MON & TUE of month. One monthly message, three repeats. Has also been reported on SAT. This and V6 are the least busy of Ia stations.

S6 - Schedules so far: 102 163 254 385 432 482 502 621 624 659 714 719 ?726 731 826 842 852 971. Best times: Mon 21-2230, Tue 18-2130, Wed 1630-21, Thu 2000, Sat 0900 & 1800, Sun 0500 & 2100.

A very strange-sounding S6 appeared on Tue 7.4 2100 on 5125kHz: 971-472/30, repeating at 2200 on 4504kHz. Throughout both transmissions there was a rhythmic scratching noise keeping time with the groups. The first tr. ended with only three zeroes - an error. The second tr. ending in the usual five. About 20 seconds later

the scratching stopped leaving a clean carrier. Technical faults are almost unknown on the Russian stations. The scratching was most probably caused by a drum recorder, which for some reason was brought back into service.

S6C - A few of these oddities have popped up. e.g. TUE 14th April at 0535 on 7590kHz: "11715". No pattern to these transmissions has yet been identified.

S25 - See above.

V6 - Schedules processed so far: just one and a 'missed ID', 728 ??? FRI 1900 The least active of Family I stations, but still running at least one regular schedule.

FAMILY Ib

M12 - Still the busiest of all the Russian stations with many schedules running. Some of these are 'special' schedules which don't conform to the usual habits of this sub-family. The main ones of which are 658 & 749 (which are linked), 963 which has a long-term frequency use and until recently, a nonstandard repeat pattern, and also the very long-running schedule sending the same message every week but changing its schedule number and frequencies at seasonal intervals.

Many schedules in morse and voice have long been noted to use frequencies in which the primary, and each of the two repeats are related - the 10kHz & 1kHz placings being the same. e.g. 13367-12167-11567. This example being June's special M12 schedule sending the very long-running 66 group message (DK always 792). For the June freqs. the SN is 315 - these three digits representing the 100kHz placings for the three freqs., i.e. 13367-12167-11567. Many other schedules use the same ID structure, so that once the primary freq. schedule is identified, the other two freqs. can be found easily. This is only the second case where we've noted frequency-related IDs being used - the other being where M45/S21 schedule numbers represent the last three figures (100/10/1kHz) of the lowest parallel.

Some schedules operating this year include: 135 138 151 152 154 194 213 217 234 286 287 304 326 366 416 418 426 486 595 608 691 715 719 724 754 767 772 782 812 815(linked to 658/749) 825 845 870 935 936 940 941 945 946 963 949 986

The endlessly repeated 792/66 message has changed schedule several times as usual - to enable best reception at its target location/s (1940-2000-2020UTC Sun, changing to 18401900-1920 for summer months) Dec/Jan Sched No.: 304, Feb: 782, Mar: 213, Apr & May: 151, Jun: 315 - freqs being 13367-12167-11567.

658 - Tue Wed 1400-1420-1440 on 13921-15720-14922?

Mon Tue 1800 & 2100 on 6855-5790-4627

Wed 2000 on 6934

Sat 2000 & 2100 on 6855-5790-4627

749 - Mon Tue Wed Thu Sat Sun 1600/1700 on 6782-7657-8171kHz

These two schedules are interrelated and operate in a complex manner; they really need a feature of their own.

E7 - see also M12. Some Schedules logged this year include: 102 695 825 890 915 916 919 946 948. Try 2000UTC Mon, Wed & Sun

G7 - see also M12. Schedules this year include: 118 156 164 214 218 224 258 306 421 464 485 522 577 621 631 696. Try 0630 Tue & Thu, 1900 & 2030 Thu, 1800 Fri, 0800 Sat, 0700 Sun. Linked: 118/224 132/406 164/224 164/214 306/421 464/621 621/696

S7 - see also M12. Schedules this year include: 350 369 418 571 638(including a double message) 671 742 792 795 813 847 864 867. Try 2030 MON, 0500 TUE & THU, 2100 MON.

V7 - see also M12. Schedules so far this year: 118 275 398 541 572 654 725 749 893 947. MON 2000. FRI 2000. TUE & THU 0600 Messages rare, nearly always nulls. Repeats follow normal family pattern. July: 0600 11461-12061-13361? ID: 403 or 14361?

XP (Polytone) - As polytone frequencies always follow the 'last two digits rule' (i.e. 10 & 1kHz placings the same for primary and each repeat) does this mean that the Schedule Number is related (see M12 above)? If so, this means that the tones could all eventually be identified with their respective figures. This is assuming that tones are not reallocated with each new schedule, which is possible. The 0, 1 & space tones never vary, but the other seven may do - however, it is unlikely as this would involve reprogramming the resolver at the receiving end. Such reprogramming information would need to be passed to the agent in advance; there are many ways of doing this. Seeing that GC tones are omitted, is this to prevent tone identification, or merely because a GC is unnecessary when the message is being automatically recorded? There is no way we can tell. As the message is encrypted anyway, there's no reason for tone identification to be kept secret, so there seems little point in reallocating tones, unless it is merely to add another layer

June freqs.: FRI 0600 9394-11494-13394. Could the Schedule be 343? Also TUE 2100. July 0600: 9441-11041-12141kHz

All Family I schedules are subject to change, and need to be closely followed. Times given are only very rough guides. Signals usually very strong and of high quality.

FAMILY II See further details under this heading.
The CIA's "Cynthia" (E5) and her much shyer Spanish sidekick (V5)

Either Cynthia, or possibly her clone, have now taken over from the little German girl's voice of Swedish Rhapsody - see Family XI for details. Surely this can only mean collusion of some kind between the two agencies.

As many schedules come and go without rhyme or reason, it is hardly worth publishing details, as they become out of date very quickly. A very low GC of 34 was noted on a 9th March transmission - this is very unusual for this station.

FAMILY III - "Strich"

Behaving in its usual predictable way. M3's unpredictable 287 schedule has popped up again - daily as always, and never sending a message - at present at 1630 on 7256 in the 40m broadcast band, having moved from 5830kHz.

M3 - IDs operating this year: 010 011 012 013 015 016 017 018 019 / 035 / 040 041 042 043 044 ?045 046 047 ?048 ?049 / 214 215(error?) 216 / 287 / 496 (G11 also) / 503(slow) ?508 / 552 ?503 ?558 / 584 / ?621 624 / 741 742 743(MCW) / 976 ?284
? = possibly active. Too many schedules to list details, mostly 0600-1000, 4-6MHz. Highest freq. at present: 10720kHz.

Special ID 121 has not been logged this time, but could easily have been missed, due to its unpredictability. Messages sent at the usual levels, mostly in the usual periodic flurries. Special ID 287 is back again. It may never go away, as freqs. and times are very variable - DAILY as always, at present at 1630 on 7256kHz. 287 never sends messages, but is associated with M3A variant: 111 or 333/00. Some of the above IDs, also have never been known to send traffic, e.g. 214, 503, 624. Others rarely send nulls, such as 015, which may send two different messages within an hour, on different freqs. All message GCs over past 6 months have stuck rigidly between 5059, which is typical. (Only 121 regularly deviates from this range).

Many of the schedules are following those of last year, but more significantly, messages are, in some cases, repeating group for group, those sent at the same time last year. E.g. TUE 2.6.98 0830 5550kHz: 015/54. The identical message was sent using a different ID in 1997: 5520 012/54. On WED 10.6.98 1030 5180kHz: 041/50. The same message was sent on WED 11.6.97 on same schedule. Comments and speculation please.

E11 - (231) is still around: FRI 2030 - 3060, 4015, 4780 or 5050 (depends on time of year) Weekly

G11 - (752) Weekly TUE 2100 - 3823, 4015, 4780 or 5050
WED 0800 - 6430, 7840 and others - Repeat
(496) Weekly WED 0600 - 6750, 7580 and others

S12 - (971) First and third MON of month 2100 - 3823, 4465, 5180
First and third WED of month 2100 - 4015, 5180
(755) Not logged this year. Lost? Not operating?

All these voice schedules have been running for years now and messages are rare.

FAMILY VI - This section follows later.

FAMILY VII

M17 - Much busier than its voice counterpart. All schedules still operating as usual. A record 99 group message was sent on 22nd April, considerably higher than the typical GC of around 22. Recently some messages have followed on from one week to the next. No changes.

E1 ("Ready Ready!") - Only voice schedule operating appears to be 82 on Mon 2130-2150-2210: 4740-4460-4270kHz. Will this be the next to go? Catch it while you can!

FAMILY VIII - M53?

The question mark says it all! We are not certain, but it is quite possible that M53 could be part of the family which once included the extinct/dormant S8 (YT) and M27 (BTV). Several characteristics when taken together, support this suspicion: 1. Very stable long-term schedules. 2. Use of only two known freqs. - 6820(Winter) & 8231(Summer). 3. Use of 3f random addressee numbers. 4. Low group counts typical of YT & BTV messages. 5. Unnecessarily 'fussy' call and preamble, making the most of Morse procedure signals.

Can be heard most days at 2000 & 2100 on 8231kHz (since 31.3). Always uses the same 'ID' of 747, followed by one, or occasionally two, messages to different addressees. Repeats are sent on the following day, and like S8 & M27, messages are never 'carried over' but are regularly replaced. A handkeyed transmission was noted on 3rd April.

FAMILY IXa

M7 - No change in activity. IDs 035 078 701 771 966 - not easy to catch these due to lack of call and only one minute of 'tone sequence' before the preamble. For automated reception.

M10 - Much easier to catch IDs due to 5min call. As well as all the usual schedules still operating as predicted, there have been some very odd goings-on in recent months. Encrypted 5fig addressee numbers are being used for two anomolous schedules: 1000 on 5705//? and 1900 on 3824kHz. The 1000 schedule is daily - a departure from M10 habits. It also sends (short) messages to four addressees each time - never repeating - new messages daily. At 1900 - irregular, several days/week*

A peculiarity of both of these is that the 'circuit number' is always 111 instead of the usual 555. ~~At 1900~~ the GC is sent three times (each time) instead of twice, making it a variant format.

Regular schedules operating this year (in order of 1st addressee): 107/859 249/487 253 313 345 345/724 355/966 408/695 481/988 495/691 571/275/049/435 585/086 661/423 667/988 752/903 771 783/961 866/844 905/423 966 ?/859

All the above use two parallel freqs, one or both changing seasonally. Not all are weekly. Some operate seasonal cycles, others are continuous such as:-

571/275/049/435 - weekly SAT 1645 4485//3385-5028kHz

Repeating on SUN, MON & WED. (same time/freq slot)

Some schedules repeat at different time/freq slots. A record 98 groups (903) on 21.4 at 1710.

S10D- Regular schedule has been reduced to first (109) and third (247) Tuesday of month: 109/541 & 247/541 are both still operating, sharing time/freq slots. Addressee *Transmissions are often Hand keyed, GC (always 30) repeated twice, not once. Tr ends (DK x2) 30 30 30 - without the usual three zeroes. Therefore new variant, M10D.

541 is always included. Moved from 4485//3833 for summer.
TUE & WED (Repeat) 0630 & 1530 - 4958//4485

A mammoth 132 groups was sent to 109 on 5th May.

FAMILY IXc - S17

Still operating as usual. Daily at 1355-1402 on 5027//4485. Long-term analysis of its 'messages' is underway, and so far, has resulted in very interesting patterns. Details will be published at a later date. In the meantime, logs of this station would be very welcome - only daily 'message' group required, as this is the only variable.

IX0: M39

Although definitely one of the Czech family, it seems to be in a class of its own hence the odd designation. Several pointers give away its family relationship: 1. The use of rapid dashes between 'sections' within its transmissions - a characteristic of former M7/M10 transmissions, now largely dropped. 2. Use of parallel freqs. where... 3. one of its transmitters has a very distinctive clicking as if arcing is taking place in the PA stage. This peculiarity has also been noted on one of M10's two parallel transmissions. 4. Use of short zero. All these combined, especially No 3, confirm its identity. Its format also follows that of S18, one of the rare 'Czech Man' formats, which it may have replaced. If so, it is part of the subfamily IXa, however, not enough is known about S18's habits to be sure on this. Scheduling provides no clues as M39 seems to operate without one - both times and freqs are found by chance. Logs, therefore, are always sparse, and true activity levels will be higher than they appear. All we can say is that it's still around with its usual unfathomable format: 3fig x3 followed by 5f x3, none of which are entirely random. Best times 0500-1100, usually between 4 & 6MHz.

Has been active several times this year

FAMILY X - This section follows later.

FAMILY XI - "Swedish Rhapsody"

This station, noted for its stability, has recently undergone two radical changes. On 1st April the old schedules were entirely replaced, turning the unruffled world of Swedish Rhapsody upside-down. Perhaps the biggest change was the total extinction of G2A, whose schedule hadn't altered for very many years. In the third week of April, all this changed again - this time, although the new schedules remained, the familiar 'little girl voice' along with her musical toy disappeared and has not been heard since. Yet another blow to eccentricity which will be sadly lost. The voice in German has been replaced by that of the brash American English - Cynthia. What conclusions can we draw from this?

Format has also changed - after a short settling down period. Gone are the single message voice transmissions; all are now of the 100/100/50 group triple type. Transmissions commence at 3 minutes to the hour with a call reminiscent of E5, however, no ID is included, and the counting is in the form of 5fig stutter groups. e.g. 11111 22222 33333 44444 55555 66666 77777 88888 99999 00000 repeated until the

hour. On the hour the three message headers (still encrypted 5fig) are read out three times, followed by the first header twice which is immediately followed by the first message (100 pairs, as usual). Without pause the second header is read out twice, and the second message follows immediately. The same applies to the third (50 group) message, which ends abruptly, although the word "END" has also been noted. The main difference between this new format and the old one is the complete lack of pauses and announcements (no English equivalent of "Achtung!") - from beginning of traffic list to end of last message. Headers are read no differently as the message groups themselves, as if they were merely message groups. This gives the impression of one long 162 group message, which of course, it is not.

What does this imply? It now implies moreso that all three message blocks are intended for the same recipients, and not separate addressees, as would be the case in a station like M10, S10, G3 or G8 for example. It also implies that blocks 2 and 3 are probably continuations (when needed) of the message encrypted in the first block. This means that the third block would always be the least likely one to carry valid traffic. The recipient would first of all transcribe the three headers as headings on a pre-printed (?) form. A grid of 100 spaces (10 x 10) below the first heading would then be filled in as the first block groups are read out. A prearranged Message End Marker, say a particular run of 3 figures (in clear), would be looked for by the recipient and at that point all further groups read out would be ignored, the receiver being switched off. The headers probably provide decryption information, and possibly also a (simply?) encrypted group count - in which case a Message End Marker would not be needed. The message ending could be marked at the appropriate grid square - these squares may even be numbered 1-150. Perhaps the need for three blocks is due to a need (added security? An inherent weakness of the system?) of the encryption system used, a system designed for a maximum of 100 groups. Why is the final block only half the length of the other two? Maybe it's a historical anomaly dating back to a period when time was needed to retune transmitters in time for the commencement of the 10min tone period prior to the next transmission. A 100 group final block would leave very little time to arrange this. 50 groups ending at $h + 37.5$, would make all the difference; it could be as simple as that. Maybe, for reasons unknown to the uninitiated, there is never any need for more than 150 groups, and this figure depends on a very specific kind of message - perhaps even so specific that precisely 100, 100 & 50 groups are always required, but this seems the least probable theory. We are open to further suggestions and wild speculations!

M4 - only one message per month. w/c 2nd Sat of month MON - 100 group msg at 0957 on 7250kHz. Repeated at: 1157 8188kHz, 1257 5748kHz; WED & THU - same times and freqs as Mon. MCW constant carrier as before. Format is identical to previous except that the 10min of 'U' now only lasts 3 minutes.

E23 (NEW DESIGNATION) - Three messages per month, each of 100/100/50GC format:-

1. w/c 1st Sat of month MON, WED & THU - 0957 6507kHz, 1157 8188kHz, 1257 5340kHz - all repeats of 0957 Monday. All USB.
2. w/c 3rd Sat of month MON, WED & THU - 0757 4832kHz, 0957 6200kHz, 1157

8188kHz, 1257 6507kHz - all repeats of 0757 Monday - 12 transmissions in all! All in USB.

3. w/c 4th Sat of month MON, WED & THU - 0757 5340kHz, 0957 8188kHz, 1157 7250kHz. - all repeats of 0757 Monday. All AM.

`Fifth weeks' now carry no transmissions. Note: transmissions have only been heard on these three days of the week, and only during Central European office hours; draw your own conclusions!

G2 - No longer operating.

FAMILY XII - This section follows later.

FAMILY XIII - VDE & 'Three Note Oddity'

M29 (VDE) - M29A's daily transmissions carrying weekly messages continue, changing frequencies monthly. So do the longer format type (M29), but these follow different scheduling patterns. New message nearly always starts on Monday.

	JAN	FEB	MAR		APR	MAY	JUN
1800:	3270	3910	????	1700:	6590	6640	6529kHz
2000:	3200	3470	5460	1900:	5709	????	6469kHz

M29 format is more often heard 0700-0900. Repeats 30min later 100kHz away. Earlier in June there was a flurry of activity. e.g. THU 11.6 0700 5670: 23 35 11 0900=, 0800 5750: 9 38 11 1000=, 0900 6470: 19 35 11 1100=, 1800 5420: 26 38 11 2000= Purpose of first preamble element not known; 2nd is GC, 3rd is date, 4th is time - UTC + 2. Often starts at h + 10min, repeating at h + 40. (4th element would then be xy10). July 1700 & 2000 slots: 6660-6509kHz

Numbers stations sometimes break their own rules and on 9th June M29's expected repeat 100kHz lower down the band at 1030 didn't materialise. In its place was G4 with its 3 note tuning signal, followed by 34 groups.* The same thing happened on 11th June, an M29 at 1800 on 5420, was followed at 1830 by G4 on 5320kHz. A very unusual feature of M29/G4 messages on this day were that they were all made up of seemingly random groups - apart from the first two groups, which were of the usual type.

* NOT repeat of M29 msg.

G4 (3 Note) - See also M29. Regular Sunday schedule continues. Messages change monthly along with freqs. Other schedules seem to be less long-lived, and are harder to pin down.

	JAN	FEB	MAR		APR	MAY	JUN
2105:	3256	3265	4435	2005:	4746	5410	5730kHz
2135:	3156	3165	4335	2035:	4646	5310	5630kHz

An analysis of messages has been undertaken, and will be published at a later date. Although sending 'message blocks', this clearly not a 'text type' station, and its form

of 'encryption' is unique. The same applies to VDE.

FAMILY XIV

M1 - 'A' network operating predictably with its usual six slots per week, however, group counts have dropped from the regular 40, to between 30 & 40. 40s are actually rare nowadays. The same trend has been also noticed on 'B' network transmissions, where often messages are very much longer than a particular schedule's Standard GC. e.g. 325 (SGC 30) has recently sent a 53 group message. The Standard GC 'rule' is no longer evident in many cases. Needless to say, we've no idea as to what this may mean!

End-of-month transmissions follow their usual bewildering patterns. A promised up-to-date EoM list has to be delayed again, but we can supply it on request. EoMs certainly provide some interesting data. No EoMs were sent in June - just ordinary messages, both of Thursday's being longer than the recent average: 44 & 42 groups. Last year, the same thing happened in June - no EoMs. Perhaps this is their holiday month!

'B' Network schedules processed so far this year: 050 053 103 136 168 254 271 298 302 317 325 382 419 514 594 719 729 745 871 913 931. Like the 'A' network these are seasonal, but they all have their own cycles. e.g. 053 runs 7 months April/October, and is replaced by 325, November to April. 419 runs Nov-Feb, replaced by 271, Mar/Apr & Sep/Oct, and by 871, May/Aug. Each schedule has its own freqs. Some use two parallels.

Unlike the 'A' Network which sends six different messages weekly - never repeated - 'B' stations will often carry over a message for several weeks, and may even share the same messages over roughly the same periods. This applies only to Related Schedules. e.g. 136, 419 & 514 are related - for most of February they shared the same message: 710/45. Previous to this they shared 517/43 (compiled on 12.1). 136 actually started sending this on the 12th, 514 on 15th, yet 419 was still sending an earlier message (compiled 8.12) until 23rd Jan - leaving only 2 weeks for the 517/43 message. Operation of M1 in all its aspects is extremely complex, and considering transmissions are hand-keyed, and certainly live in many cases, this makes it the most highly-organised family of them all.

M1C has been active - as always highly unpredictable. It seems to use its own very large selection of IDs - they can hardly be termed Schedule Numbers, as no regular schedules exist.

M45 - Still only paired with one S21 schedule. At present TUE & THU 1702 5074//5474 Schedule Number being always now the last three figures of lowest freq. i.e. 074 For the time being 1st groups are random.

S21 - Operating at least three regular schedules:

TUE & THU 1742 4973//5373 SN: 973. Repeats M45 message.

THU 1945 5290 Long-standing SN: 491

WED 2045 3160 Long-standing SN: 402

The 1742/1842 TUE/THU 'slot', which once remained unchanged for years, is now subject to frequent change:

	JAN/FEB 323	MAR/APR 454	MAY/JUN 973
1842:	3323//3823	4454//4854	1742: 4973//5373kHz

Other rather elusive schedules have been noted: SAT 0815 5075//? (075) SAT 0915 4832//3384 (384) but these do not seem to be regular.

FAMILY XV

M13 - Schedules this year include: 158 (no longer A) 183 ?228 ?252 253 254 261 272 284 288 346 378 411 417 419 458 517 590 735(A) 714 732 915 946(A)

590 still sends its longer than average (for M13) messages - 50-60 GC lately. 272 has now reached Serial No 205 (May) In March two messages were sent on 158, which had dropped its 000(M13A) format - 168/29 & 169/20. We've also partly solved the problem of where some of these IDs disappear to; they change Schedule Numbers while continuing with the same Serial Number sequence. Groups or pairs of Schedule Nos are related to one another and operate consecutively, clearly being aimed at the same recipient/s. At present, we can only predict some of these schedules a year in advance. More work is being done on this.

E18 - Still around, but we've not been as diligent in keeping track of it as we should be! Last logged 12th March 2300 (or 2310) 6464kHz. Monthly Schedule no. not known. Monitors desperately ^{needed} as usual, for this and many other stations/schedules. The more of you who contribute, the more we can publish. There's a strict limit on the amount of material that ENIGMA HQ and a few stalwarts can provide. We need much more active support - and will give advice when needed.

G22 (RE-ACTIVATED) - Has been reported in recent months. Along with E18, these voice stations are far less active than their Morse counterpart, and tend to appear at 2200-0000 or 0400-0600. Frequencies change monthly.

FAMILY XVI - Romanian

M63 - The mysterious non-registered bogus callsign A2A is strongly suspected to be operated by Romanian intelligence, but as yet, very little is known about its activity. It seems to favour the lower freqs. - 3/4MHz region. Please send in all logs.

FAMILY XVIII - Cuban?

These very busy stations, presumed to be Cuban, do not all operate from Cuba, or at least this is what signal strengths in Europe imply. Best times for Europe: 0000-1100

M8 - See last issue for reasonably full details.

V2 - See above. As mentioned before, the final figure in the 5fig header always refers to the repeat number. e.g. 2 = 1st repeat, 3 = 2nd repeat. There are always two repeats of any message's first transmission. However, recently a header ending in 4 appeared. Was this an error? Compilation errors, at least as far as we can tell, are non-existent. Unfortunately, we have no logs of the companion 1st, 2nd & 3rd transmissions, so we cannot verify this. The original (non 150/150/150 group) format is still being used but is only occasional, and seems to be more often logged in USA, than in Europe.

Minor 'cosmetic' schedule changes do take place. When we have time, we hope to analyse the vast quantity of data we hold on these stations.

FAMILY XIX - French intelligence

M16 (8BY) - Usual hourly transmissions. See previous issues for details. A 'list' as opposed to 'text' type station.

M51 - Usual level of activity for very long unbroken periods. One of the busiest stations, yet its scheduling is, so far, impossible to penetrate. Listing frequencies heard would be pointless. (4-6MHz region) Any time, any day.

0: STATIONS NOT ALLOCATED TO FAMILIES

By far the most active of these are the vast E10 (Phonetic alphabet - NATO-style) network, its 'pre-NATO' style rival E15 and the inscrutable shape-shifting M23. This section also includes The Buzzer (S28) and various miscellaneous Oriental and Morse stations

M18 no change.

M22 -4XZ no change - as far as we know.

M23 - See feature in this issue. See also M52 for a possible family link. As amorphous and frustrating as ever. Suspicions that an embryonic family is on the road to fruition, are getting stronger - see M52. This year has seen much perplexing activity. We can only list the highlights.

First, the 'non-news'. The '579'(null) schedule is still operating twice daily, and has been doing so ever since February last year, without a single message being sent. DAILY 0800 & 1400: 8307/9285kHz as we keep on reminding you!

The frantic daily activity on 6999 has ended, along with somewhat less frantic, but related activity on 6430. No doubt they will be back. Various other (odd/even type) shorterlived schedules have been and gone. Most notable, though, is the daily (almost) schedule at 1500(summer, 1600 winter) on 7795. A most extraordinary series of transmissions which often repeat a day's

message on the same day the following week, for up to eight weeks on a run. However, they went 'out of sync' a while ago when a new Sunday schedule appeared (once only) but it doesn't seem to put them off. This is an 'even ID only' schedule, where messages are always sent. (longest 129 GC). But, unlike the usual Odd/Even format, this one uses a different even 3fig ID for each message. Even more bizarrely, this schedule uses long pauses between elements. After the call, it is easy to imagine the transmission has stopped, similarly at the message end. Timekeeping isn't a strong point - starts within 5min of nominal start time.

M26 & 34 - When they're around - impossible to miss. However, this isn't a very frequent event, so logs are always sparse. An M34 sample: Mon 2.3 0820 5040 - "11 27" repeated 5min - "11 11 11" then 13 x 5f. Message repeated, then "27 27 27", and a different 13 group message & repeat. (Not entirely random) Ends abruptly with last message group.

M52 - A 'control' type station. This rarity popped up on 6th February 1700 4060//3835 with "34:383622 383622 383622 AR". At 1800 changed to: "34:491444 491444 491444 AR" until at least 2020. Again, on 29th June at 2000 on 7940//? For the first time we can provide details of the 'call' for it does have one. As traffic is of the endlessly repeating type it was assumed that a call would be unnecessary. However, its operators evidently don't think so, for until 2012 it was sending a repeated '55'. After a pause, this was followed by '10:441589 441589 441589 AR' (pause) This was repeated continuously until at least 2115. As this station tends to send 'flurries' of transmissions interspersed by long periods of inactivity, when heard, it is always worth searching for it over the next few days. Not surprisingly, it turned up again on 1st July ending at 1802 with '14:824393:26 AR 14:', ending abruptly, just like that, in mid-flow. It was there again at 2110 sending, '14:832233 AR'.

More and more I suspect the master hand of M23 here, for M52 carries some of its idiosyncratic hallmarks. 1. Use of two parallel freqs. 2. Use of long zero. 3. The now revealed call. M23 has in the past used similar calls, such as 33 or 44. Only one other Numbers station uses two figure calls: M26/34. 4. Possible poor timing, when 'message' was intended to begin at 2010? This is typical M23 - not noted for its punctuality. In this case M52 probably started calling at 2002. 5. Use of the colon, very rarely used in Morse nowadays, and a British trademark (!). M23 also uses this from time to time. 6. A suspiciously similar form of keying. We'll say no more at this point, except that all logs are very welcome.

M56 - very infrequent. No reports.

MX - Single Letter Transmissions No great changes to report. All the clusters busy as usual, except 3595, closed for the season (?). The solitary R on 3323 went on one of its mad excursions for a while to 6642kHz. When it returned it was on 3321, not 3323 - exactly half of 6642. Why? And why does it spend holidays in the 6MHz band, while its clones on 3196 and 4325 stay behind? This is the same wandering SLT which emigrated from 7452 a few years ago, where it had been for several years. 4MHz+ is a big jump at these frequencies. My favourite, L, still has its chirp; it wouldn't be the same without it!

We were amused but not surprised by a comment in March 'Monitoring Times' made by Hugh Stegman: (referring to the 8492 cluster) "These are single-letter channel markers for Russian Navy data or telemetry channels. They tend to cluster close together in frequency". They are emphatically NOT what he says, as evidence so far is totally lacking. By repeating ad nauseum the same rumour it begins to stick and become irrefutable dogma. It is part of Numbers Station folklore, like that unforgettable classic "snowfall figures on Andorran ski-slopes" - so fantastic that it never caught on. Being more credible, the SLT myth is still doing the rounds. We could give other examples of this phenomenon too. **BEWARE OF DISINFORMATION.** Until any information we receive can be independently verified, we must treat it with caution, and not be afraid to use the words, 'maybe, likely, possibly, probably' etc. or 'we have been informed that'. We can confirm that certain individuals do feed ENIGMA with disinformation, (either cranks or pawns of the intelligence world) and sometimes we lay traps for them and sometimes they fall into them quite unwittingly.

"They tend to cluster..." This is a generalisation. We cannot treat all as one. Only some SLTs cluster. They play a very different role to other types which don't, and are possibly completely unconnected. It is interesting that in an email from Anatoly Klepov listing Russian utilities contributed by Russian monitors, many stations are listed as Russian naval, but the four SLTs listed (different monitors) are merely named 'RUS SLHFM'. At least, it would seem, the Russians don't follow like sheep! See article in last issue.

Since that article, we have learnt of other cluster SLTs, inaudible in Europe. Takashi of Japan has logged the following: Band B - E,F,K,V Band C - C,F,K,M,P,S Band D - C,F,K,P Band E - C,F,P,S Band F - C,F,K,P,S Bands G & H - C,F,P,S. So possibly there are up to seven SLTs in each cluster. In recent months solitary Vs have been logged on 3316,4575 & 7002 (a new freq. - in amateur band). T has appeared on 7527. It's wise to be wary of T & E reports as they may not be sending letters, but pips of some kind, and may not be SLTs at all. The E in cluster band B seems a possible SLT, though, by virtue of merely being where it is.

Another article is being prepared on these "Russian Naval Markers" - a vague and meaningless term, for what are they marking but the passing of time?

FAMILY II - CIA

E5 COUNTING STATION 3/2F ENGLISH - Mode AM/SSB

See also important news of new designation E23 under Family XI 'Swedish Rhapsody'. The 3/2F (E5) format is alive and well but traffic levels have fallen from an all time high in autumn 1997. There have been many changes to the operating schedule with each passing month, unlike last winter when things remained much the same the all way through. Some long standing frequencies have been discontinued; 6970 kHz, which was used in the early evenings was a bad choice as it was usually flattened by the Romanian Press Agency RTTY station. Another schedule to end is the Sunday 16.00 transmission on 9070 kHz; this was one of the longest standing E5s and has had several different parallel frequencies over the years.

We receive letters asking for us to publish the full schedule for E5. Unfortunately the schedule does not remain stable enough. Please see further comments in Letters page this issue. We will however look at collating those transmissions which are 'regular' for the next issue and publishing these.

V5 COUNTING STATION 3/2F SPANISH - Mode AM/SSB

At one point it did appear that this format was in terminal decline in the Spanish language but we have received some reports and the transmissions do seem to still be active. Noted at 01.00 02.00 and 03.00 on TUE WED FRI & SAT.

FAMILY VI - BND

E16 - 2 LETTER - ENGLISH - Mode SSB

The active calls in English are ECHO HOTEL, BRAVO LIMA & ALPHA UNIFORM. BL can be heard daily at 20.00 - noted using one of 11108 11545 or 11617. AU was again active on 4821//4888 in March. EH can be found on the higher frequencies at either 15.30 or 16.00, noted on WED FRI & SAT.

G16 - 2 LETTER - GERMAN - Mode SSB

The active calls in German are GOLF KILO & WHISKY LIMA. GK is on several times some evenings and was noted at 19.30 20.00 20.30 21.00 21.30 22.00 and 22.30, several reports have also noted GK at 01.30 on TUE and SAT. Active GK calls include 316 571 750 856 & WL calls have included 522 and 550. Activity from this family is on the increase. Reports appreciated.

Frequency list for E16 & G16. 2690 2707 2745 3228 3262 4543 4594 (4821//4888 AU) 5015 5182 5732 5770 6370 6765 6853 7404 7532 7661 7740 7752 7858 8063 8173 9040 9325 9450 10170 10460 10500 10740 11108 11545 11617 12092 12210 12314 13362 13413 13752 13775 13890 14622 14945 15610 16055 16620 16414 17430 18195 18575 19295 19755 20240 20350 20675 22885.

Further news about 2 - Letter stations in Simon Mason column this issue.

FAMILY X - MI6

SEE ALSO PAGE 61 for new revelations

E3 'LINCOLNSHIRE POACHER' Mode SSB

Intensive jamming from Iran seems to have finally made some impact on LP transmissions. The full schedule which was published back in Issue 13 continues to hold up well. The main news is that transmissions at 10.00 & 11.00 UTC seem to have ended. Those readers who have studied LP in detail will know that the 10.00 & 11.00 transmissions are sent to headers D & H, however to avoid jamming D & H do also receive further messages included in the sliding schedule system.

It is possible that transmissions may be taking place outside the 12.00 to 22.00 schedule. Several years ago a set of transmissions also ran at 03.00 to 05.00. A further report mentioned hearing LP at around 07.50! On 14487. In the evenings jamming is also commencing at around 18.00 (previously 20.00)

On some occasions recently only two frequencies are audible; it is possible that the third scheduled frequency may be switched to either a listed or unlisted frequency. If you cannot find LP on any known frequency it may be worth trying to seek it out. One such frequency is 16314 kHz; this is used on some Tuesdays at 14.00 to substitute 11545 kHz. Please advise if you note any frequencies which are not listed below, or when LP is noted off schedule - either frequency or time wise - from our Issue 13 efforts. Frequency list:

5422 5747 6485 6900 6959 7337 7755 8464 9251 10426 11545 12603 13375 14487 15682 16084 16314 16475. In Issue 14 we mentioned data transmissions which take place at 48 minutes past the hour on LP transmissions. These consist of two 1 minute bursts of FSK. We have not had any feed back on this, could readers with decoding equipment have a listen to these and report? Thanks.

E4 'CHERRY RIPE' Mode SSB

No major changes to report. Full known operating schedule is detailed below. Note 15616 dropped and replaced with new 15624 kHz.

<u>00.00</u>	<u>01.00</u>	<u>10.00</u>	<u>11.00</u>	<u>12.00</u>	<u>13.00</u>	<u>22.00</u>	<u>23.00</u>	MON to FRI only.
15624	15624	10452	9263	8230	7484	9263	17499	Thanks to Simon,
19084	19884	15624	13866	12056	11570	12056	20474	Ian & Takashi.
22108	21866	17499	14469	13866	13866	15624	23461	

FAMILY XII 6647 & 11292 kHz

E9)MAGNETIC FIELDS Mode AM

No reports received, may still be active on 6647 kHz on MON at either 18.00 or 19.00 - very erratic.

V8)EASTERN MUSIC STATION Mode AM

This station is still active on the first SAT of each month at 19.00 in Winter & 18.00 in Summer on 6645 kHz +/- 3kHz. Starting times are rather erratic and the quality of audio and modulation is similar. Tapes played at the wrong speed and several false starts have become the norm with this Arabic language station (pity the agent). The SAT March 3 transmission suffered severe interference in the UK from a strong 'R' beacon which had taken up temporary residence on 6645 for several weeks. Can any readers confirm if the first FRI of the month transmission is still active on 11290 kHz at either 08.20 or 09.20? On a recent SAT transmission strong broadcast audio in Arabic (?) followed the numbers message for about 1 minute. This suggests the transmitter is used for broadcasting purposes at other times.

STATION NEWS - OTHERS

These stations would appear to be individuals, and show no obvious sign of 'family' relationships.

E10 PHONETIC ALPHABET - NATO STYLE - Mode AM

Traffic levels continue to be high. The following frequencies have all been reported active in recent months. Callsigns vary.

2270, 2626, 2743, 2943, 2953, 3090, 3150, 3270, 3417, 3640, 3840, 4165, 4270, 4360, 4380, 4463, 4560, 4604, 4665, 4780, 4880, 5091, 5170, 5230, 5430, 5437, 5530, 5629,

5820, 6270, 6370, 6378, 6498, 6658, 6745, 6575, 7322, 7445, 7540, 7605, 7918, 8465, 8642, 9130, 9402,

10352, 11565, 12747, 12950, 1270, 13533, 15980, 17410, 17966, 19715.

Message strings are still active and reports include;

VLB 5007 1900	SYN 26T15P12D38
CIO 26B14L4416	SYN 26P15B38
CIO 16B53T46	MIW 24
CIO 24	MIW 64B4684
CIO 48L15	KPA 20L
CIO 16L12	KPA 32D21

The less active callsigns have also been active including; ROV on 4604 and the new HNC - Hotel November Charlie on the frequency of 6575 kHz (further details about HNC in the Simon Mason's column in this issue). Several 160 group messages noted recently - is this a record?

Are these stations really Mossad? The suggestion that they are has been doing the rounds for years and like most things - once published somewhere the story sticks like glue! Certainly some of the signals do seem to emanate from Israel but reception of this network spans from South Africa to Japan and from Israel to the United States. ENIGMA has recently learned about the ultra-secret KILOWATT NETWORK, a system not unlike that of SOUD (featured in this issue). The KW Network is made up of **EEC** countries, Israel, The United States and South Africa. Israel is a key player and with the other members gathers and exchanges information on countries, organisations and individuals which are considered a threat to the alliance. Very little is known about the organisation or its activities, its very existence is not public knowledge. Is it possible that the E10 stations are in fact part of this set up. Any information about the Kilowatt Network along with comments would be most appreciated. (Ed note: Canada, Norway, Sweden & Switzerland are members. The CIA & FBI are represented. Mossad & Shin Beth play a major role.

E15) PHONETIC ALPHABET PRE - NATO - Mode SSB

No major changes reported. Reception poor in Western Europe. Some reports indicate different callsigns to those regularly heard, the 11.00 BEC was heard calling RAS and the 21.00 MAS was heard calling OSS?

Active are -

11.00 BEC 18000	17.00 FYP 14000	ALL DAILY
12.00 USP 17503	17.30 MSA 5834	
12.30 MSA 11170	18.00 USP 5834	
13.00 BEC 11000	19.00 SAR 4130	
14.00 FYP 14000	20.00 NAS 5530	
16.30 MSA 6716	21.00 MSA 4130	

V13) NEW STAR BROADCASTING - Mode AM

Very well received in Asia, signals tend to be weak in Western Europe. Noted in Europe between 10.00 - 15.00 and also at 22.00. Frequencies in use are 8300, 8375, 9725, 11430, 13750, 15388.

transmission may start on the hour or at +30 minutes past.

V15) NORTH KOREAN - VIA RADIO PYONGYANG - Mode AM

The following frequencies are all reported to be carrying numbers and have been monitored in Western Japan. 3250, 4770, 5715, 5870, 5885, 5910, 6215, 6400, 6600. Sometimes normal Radio Pyongyang & Korean martial music can be heard on these frequencies. Drifting on 5870, 5885 & 5910 is not unknown. Noted at 10.00, 12.00, 13.00, 14.00 & 22.00.

The main news about V15 concerns its use of 657 kHz MW. The station clearly has agents equipped with domestic receivers. The transmitter normally carries the domestic service in Korean for listeners in South Korea and Japan. The signal was reported to be very powerful in Western Japan at 15.00.

V16) CHINESE - Mode AM

The reception of these stations is very hit and miss in Europe and identification is very difficult. A possible V16 was noted on MON at 20.05 on 10125 - heard in Australia. Other reports are all unidentified but noted on the following frequencies; 3084, 3570, 4130, 4360, 4649, 4770 (not Pyongyang), 8813.

V20) BORED MAN - SPANISH - Mode AM

See feature in this issue. Operating on SUN at various times.

SUN 13.25 4106//6868 Transmissions appear 1 hour earlier in Summer

SUN 13.50 5135// ? to those noted in Winter.

SUN 14.00 6868// ?

X6) THE 6 TONE REPEATING - Mode AM/SSB The 6 Tone repeating signals are still widely reported. Some transmissions are followed by an FSK signal which appears between 1 and 2 minutes after the end of the AM 6 note signal. Some repeat in the hour. A transmission is noted below; no schedule has ever been established. This example shows that it is worth tuning around after hearing the 6 repeating tones.

Example

On TUE JAN 20th 19.07 6814	We received one report from Japan of a 6
19.17 5434	tone on 13924, are these signals heard in the
19.24 5775	outside Europe generally?
19.56 5393	

Do any readers have FSK readers? Sit on the frequency after the tones end - sometimes -after about 1 minute burst of hand-keyed Morse is sent followed by a FSK transmission. The 6 tones are, however, very inconsistent in sending these messages. Presumably uses standard Russian shift/ baud rate? We have made little progress in learning more about X6 stations. We were able to obtain a clear Morse transmission which sent the following message: (/ represent pauses in the transmission).

RAD/ VV UU AS AR / RAD QSY 10111 QSY 10111/UU ASA/ RAD QSY 12067 QSY 12067 SK NU - followed by FSK.

RAD would seem to be the callsign (making it Russian) and the requests are to the recipient to change to 10111 and then 12067 kHz. The '0' in 10111 was sent as '—' single dash.

SIMON MASON WRITES . . .

Hello again, and welcome to another column in the ENIGMA newsletter.

◆ INTERNET First, some news for everyone who has access to the Internet. I have collated a Web page that includes the book "Secret Signals - The Euro Numbers Mystery" which you can read on-line for free. The publisher has said that it is now out of print, so I thought there would be no objections to having it on the Internet. Thanks to Gerry Dexter for his help. As well as the book, there are lots of other items, including full schedules of Lincolnshire Poacher (E3) courtesy of ENIGMA, a full Cherry Ripe (E4) schedule from Simon Denneen in Australia and 2 Letter (E16/G16) schedules compiled by myself. There are also some photographs, including QSLs of OLX (S16/M6) and KKN44 (M25). In addition there is also one from a British Forces transmission on 6840 kHz, which came with a letter that said in part "The transmitter that radiates this frequency is situated in Cyprus and the transmissions are directed toward the Gulf region". Sounds familiar!

Other photographs of one time pads and a gigantic embassy log periodic antenna are shown as are various articles and letters. The address is - <http://www.btinternet.com/~simon.mason> - then click on the "Secret Signals" icon.

◆ NEW PHONETIC ALPHABET (E10) STATION FOUND - There I was minding my own business listening to the latest output figures of tractors, built at factory no.1 on that most interesting and unbiased of stations - Radio Pyongyang, when out of the blue came a very familiar voice "HOTEL NOVEMBER CHARLIE -HOTEL, this was on 6575 kHz on 29 March 1998 at 20.25 UTC. The transmission only lasted 3 minutes. I then listened for the next few nights and was rewarded at 19.00 on 2 April 1998 with "HNC-Z", again lasting only 3 minutes. Then on 9 April 1998, there it was again, this time for 6 minutes between 20.00 and 20.06 UTC with "HNC-A". Monitoring is still ongoing to try and establish a pattern, but it would seem to be one of those rare and infrequent stations like ZWL and NPD. It's quite a good hiding place, under the sometimes quite strong Radio Pyongyang and I wonder what those dear listeners think of their favourite programmes being ruined by this Lady?

Quite a few of these stations have sent rare messages during the last few months 13 January at 19.15 on 5630 kHz - SYN had a 10 group message, MIW five days later at 19.15 UTC sent 73 - 5 Letter groups and VLB sent a 10 group message on 31 March 1998 at 19.45 UTC. On 2743//4880 kHz at 20.00 UTC, ULX had a very long message, "Group 160" she said. Should be interesting I thought, there is no way that they can send a 160 group message, repeat it and get cleared in time for another message at 20.30 UTC. To add to the interest a sawtooth jammer appeared on 4880 kHz at 20.03 UTC, then at 20.22 UTC "Repeat, Group 160" was sent and the start of the message was broadcast, however, at 20.25 UTC the station suddenly left the air. At 20.29 UTC, the carrier of the jammer reappeared and at 20.30 UTC a very faint "ULX" could be heard with an 11 group message. At 21.00 UTC a stronger ULX sent 70 - 5 Letter groups.

◆ SWEDISH RHAPSODY - (G2/M4) I have been involved with some very interesting e-mail exchanges with numbers station enthusiasts in Austria. This all came about when someone asked if anyone knew of an Austrian numbers station. I replied to the group saying that according to 'Langley Pierce's book' "Intercepting Number Stations", the Swedish Rhapsody (G2/M4) station was operated by Austrian Intelligence. Several people asked for recordings of this station so they could assess whether or not the announcer had an Austrian accent, so I sent a sound file to them. The replies stated the announcer had no Austrian accent and indeed was not even a native German speaker at all. This seems strange as it has been on the air for so many years that it should have been identified by now in much the same way that other stations have been made. Of course, several theories have been proposed including Poland, Italy and Switzerland, but none have really been accepted as definitive, but one of these is much more likely than the others. Here are the comments of Jascha Ruesseler of Marburg, central Germany. "I listen to this station regularly and for me (as a German) it does not sound like having an Austrian accent. That does not mean that it isn't Austrian Intelligence. What I do know is that it has been active since at least the early 1960s; its activities didn't change after the German unification, and it is strong in central Europe. To my knowledge DF'ing attempts have not yielded definite results".

◆ MARK THOMAS COMEDY PRODUCT - Number Stations get their own TV series (kind of). In the recent comedy series shown on Channel 4 in the U.K., Mark Thomas an anarchic prankster had as part of his stage backdrop a large poster with a complete Lincolnshire Poacher call up and message. It also included the words "Gong Gong" inside a circle. No mention was made all the way through the series until, on the final programme, he said that some of his friends had asked him what the background was for. He then explained that it was a message from a Number Station, which were illegal and officially did not exist, although you could be prosecuted for listening to a non-existent radio station. It was a bit of a disappointment that he did not make more out of it; he probably only spoke about it for a few minutes. At the end of the programme the credits were rolled over more pictures of the backdrop and a 5 figure group repeating. I then speculated on e-mail that Akin Fernandez was probably behind it, as the backdrop was based on the message shown in his 4-CD Conet recordings. Akin replied that he wished that this was the case and that in a previous unrelated comedy series he had supplied the music from his studios. The producer of the Mark Thomas show was the same one as for the previous series and was interested in Akin's work, including the Conet CDs. The producer then decided that the Lincolnshire Poacher message was perfect for the show as it fitted in with Thomas's trade-mark of "poking fun" at the "Establishment". Internet users can view the background for themselves at - <http://www.fnord.demon.co.uk/second.html> - This also includes a more complete version of the tune playing along in the background.

◆ WHISKY LIMA (G16) PROPAGATION INTRIGUE - One of the German 2-Letter stations (G16), Whisky Lima shows very unusual frequency usage. The 10.00 UTC transmission every Sunday seems to be broadcast from the southern hemisphere. Let's look at the frequencies used. In November and December 1997 heading towards mid-winter in the northern hemisphere, it's on 20240 kHz, a very high frequency for winter, especially at sunspot minimum. In February 1998, it dropped to 19755 kHz. Spring arrives and it changes to 16220 for March and April. At the height of summer in June it uses 13890 and in July 12092 kHz. This is the complete opposite of what would be expected for a station operating in the northern hemisphere. Also, the time slot used could be an early evening transmission for the Far East and Australia. Contrast this with the WL broadcast on Thursdays at 19.30 UTC, a European evening slot. In January 7404 kHz is used compared with 13890 kHz for July's transmission. This would mean that WL is used for two separate locations and I intend to see if the addressee 3F identifiers used are different for the two days, I suspect they might be. (They are Ed.)

The English language station Mike Delta (E16) also seems to be in the southern hemisphere. At 13.30 UTC in June it uses 12092 kHz, July 12210 kHz, August 12314 kHz, September 14622 kHz, October, November and December 16220 kHz is used. MD has even been noted at 08.00 UTC in the middle of December on 19295 kHz, while for the same time slot in July 12210 kHz is used. In contrast, Golf Kilo is a typical European station. From January to December at 19.30 UTC, the following sequence is used for the Sunday broadcast: JAN 3262, FEB 4888, MAR 5732, APR & MAY 7404, JUNE 8063, JULY 9325, AUG 7404, SEPT 6853, OCT 5770, NOV 4888, DEC 3228 kHz. So it would seem that perhaps there has been a shift from Cold War days of operating in the European evenings on 3/4/5 MHz frequencies to other more remote areas.

Given that most Number Stations aim to hit their targets during the local evening in order to protect their cover, I suppose the following target areas are not out of the question:

WL 10.00 SUN China WL 19.30 THU Russia MD 09.00 SUN China

MD 13.30 THU Iraq GK 21.30 FRI Europe GK 01.30 SAT U.S.A.

BL 08.00/20.00 Daily, possibly Europe (prior to and after office hours)

■ That's about all for now, until next time my best wishes to everyone.

Simon Mason....

LETTERS TO ENIGMA

A warm welcome to issue 15. Lots of letters to get through so straight in. First, two letters about the newsletter itself. We are going to take the unusual step of publishing the full text of a letter received from Harold in Southampton. We felt it raised some important issues and answering them via the pages of ENIGMA may be helpful to other readers.

Harold writes: "I thought I would take this opportunity to write to you to point out something that might have been overlooked in the Newsletter. Looking through the section dealing with the voice stations there is mention of plenty of frequencies relevant to a particular station even though that station may receive little attention from monitors because of language problems.

I am not in the least against this even though if I heard V13 New Star Broadcasting it would mean little to me unless English was being used. V2 on page 12 of issue 14 abounds with frequencies but is only of interest to those who speak Spanish. The Morse section is quite another matter. M12 on page 18 the author says is 'Extremely Active' but no mention of a frequency anywhere. The same goes for M13 M14/24 below. I have always regarded the Morse section as the poor relation of the voice section and would like to contribute logs of the Morse stations, but how can the author of this section tell us that a particular station is extremely busy and then say nothing about the frequency.

I do realise of course that part of monitoring means that the operator must try and find frequencies for himself having done the job in the past professionally, but if the frequencies of M12 for example are known or even just a starting point why are they not mentioned. I know that you would like more logs from Morse monitors, but suspect that this is the reason that they are not forthcoming. Page 17 has a big section of M10 but nothing about where it may be found.

New readers must be at a great disadvantage when reading the Morse section of ENIGMA if they do not have the back numbers to refer to, so one assumes that its of little use to them even though many may be proficient in the reading of the code. Perhaps things will change for the better when you alter the format in the next issue".

On a similar theme 'A' from Oswestry Shropshire writes "Still mystified by the numbering system, but think I saw a reference to a kind of directory in the next issue. Hope that helps".

First of all then, let us start by saying that we do welcome constructive criticism of the newsletter. We hope to answer your comments in the forthcoming pages and also hopefully present some solutions. When ENIGMA was formed in 1993 it started out as five A4 photocopied pages covering voice stations. It has progressed into a 60 page journal with the help and support of hundreds of readers who regularly contribute logs, news, features and clippings. In 1992 little had been published on the subject. A newsletter written by the late Havana Moon (much of which was amateurish and unreliable by today's standard) and Simon Mason's 'Secret Signals' represented about 90% of the reference material available. In Britain, magazines gave the subject a cautionary passing mention, partly due to the unease about the subject.

ENIGMA set out with the aim of collating the logs and schedules of stations in order to learn more about the habits of these peculiar stations. It was clear that no one monitor could listen to and log all the traffic, and ENIGMA provided a reasonable solution to this problem by attempting to schedule stations (however, this is rather more complex than we envisaged back at issue 3) At issue 3 Mike Gauffman joined ENIGMA and introduced the subject of Morse numbers stations (a crucial component) through a series of articles and format charts. It soon became clear that Morse traffic needed its own section which was duly introduced in issue 6. Since this time Morse has remained a separate section in the Newsletter. It is through this process of evolution that we have reached our present position.

Between issues 6 and 14, ENIGMA has grown from strength to strength and our understanding of the subject has grown with it. Three key points have become clear (details of which we hope will go a long way to answering the questions posed in the letters above).

1) **PRINTING SCHEDULES:** Of the numerous stations operating, none are alike in their habits, they all have their own idiosyncrasies and complexities to unravel. This is where the challenge lies, for we must glean as much as possible with what initially seems very little to go on. We cannot treat them as we would broadcast, amateur or utility stations, for they are something totally alien and follow their own rules. We must adapt our mind accordingly and create order, where a casual monitor would only see chaos. With great patience and systematic logging we can discover these rules, predict schedules and analyse traffic. It is from this base that we should note that attempting to schedule some stations in the newsletter is relatively easy; they use fixed frequencies and day/time slots. Others, however, are either tailored to the individual recipient or are maverick in nature with no identifiable schedule. There is little point in attempting to publish schedules for every station in ENIGMA, the use of frequencies can change from day to day along with the time slots and much of the information would be useless by the time it reached the printers. Others are better behaved but much work is often required in tracking them down, again the best we can hope to offer is an indication of the activity between each issue. This seems like a good point to assure readers in the clearest possible terms that your logs are important - even though they may not be published directly they are used to give a status level to the operation of a station or to indicate new schedules starting or ending. Other logs fill in missing parts to schedules or provide those welcome surprises when a maverick is re-discovered.

2) **PREVIOUSLY PUBLISHED INFORMATION:** Earlier we used the word 'evolution'. It is true to say that information previously published can be difficult to find or non-existent if you do not have the relevant issue. It is to this end that we have prepared an ENIGMA booklet which we are sending to every reader. The booklet will pull together the following:

- a) The voice and Morse format chart with full cross references.
- b) Details on the scheduling habits of each family
- c) A list of 'fixed' frequencies (where applicable).

The nett result of the booklet is to reduce repetition in 'Station News' and provide definitive information to assist in the identification and logging of known stations.

3) **FAMILIES:** The introduction of families is the next step in the 'evolution' of ENIGMA. Previously we have listed voice and Morse stations as separate entities. The new family system will allow readers to see the whole picture, by operating agency, under one heading.

We are always open to suggestions and welcome your comments on the above subject in future newsletters.

A request now from 'S' in Warwick concerning a computer game. He tells us that he was watching the popular television programme Games Master about games you can obtain for your P.C. and saw a P.C. Programme which was about the ENIGMA machine. It was animated and would take you through the operation of the machine, a sort of simulator for operators. If you did something wrong while you were using it an assistant would appear at a doorway and offer help. After training you would be given various encrypted messages you would have to decipher. Has anyone seen the game or similar? Is it still available? There is an ENIGMA simulator for the Atari ST available from Goodmans PDL. But it is not a patch on this P.C. programme. If you can help 'S' please write via ENIGMA and we will forward your letters.

A few quick greetings now. Hello to Eric in Vancouver, Canada. He tells us that he is originally from Whitley Bay in Northern England and has lived in Canada for over 30 years and had an interest in radio for over 50 years. Staying in Canada, we also welcome Daryl in Toronto who also recently joined ENIGMA, we look forward to your logs from that part of the world. Back to Britain, and David in Colchester, Essex comments, 'It was interesting to hear Simon Mason on Radio Netherland Media Network programme discussing Number Stations'. He also comments on our Direction Finding activities and offers his assistance.

Staying on the DF subject, Harold writes from Giessen in Germany, "During WWII the British Navy developed a very good space-saving HF-RDF system called "High Frequency Direction Finder" (nick-named Huff-Duff), to be based on their ships for tracking down German U-Boats transmitting on shortwave". Further information can be found including drawings/plans and photographs of the Huff Duff system (which, by the way, is not an Adcock as mentioned in other books) in Arthur O. Bauer's excellent new book "Funkspeilung als allierte Waffe gegen deutsche U-Boote 1939-1945." In the UK details on DF may be found in Redgment, P.G.: High-Frequency Direction Finding. In: Kingsley, F.A. (ed.): The Applications of radar and other Electronic Systems in the Royal Navy in World War II, Basingstoke 1995. Do any readers have the exact address of the publishers of the latter?

Further DF information can also be found in 'Operation Instructions for D/F outfits FH 4 with Switched Coils (B.R. 1442).' Admiralty 1945. 'Journal of the Institution of

Electrical Engineering' Part IIIa 94 1947, based on Proceedings at the Radio Communications Convention, March/April 1947.

P.T.A. writing from Edinburgh also asks about DF information and is keen to make a start. We are addressing this matter - thanks for your interest. He also greatly appreciated the advanced notice about our appearance on the TV programme "Here & Now" last year. He also asks how 'old' logs should be before they are no longer of interest? The answer is that we appreciate all logs between the publication dates of each issue - however - we are also very interested in historical information covering any period up to the present. This is vital for ongoing research, and cannot be emphasised too strongly.

"Number Stations mentioned on RAI, the Italian Broadcasting Service". Thanks to Andrea Borghino, an Italian DXer who began working for RAI, the subject of numbers stations was covered on an official Italian station. Just a few minutes, with a couple of sound bites were given over in "Golem", a morning radio programme dealing with oddities in Television and radio programmes.

Regular contributor Paul in London wrote to thank us for our feature on Iraq's secret monitoring facilities 'Project 858' in the last issue. He has very kindly sent us a copy of one of the personalised club cards for YI2AM (the former RAF monitoring station at Habbaniya. He also goes on to tell us about the book 'Secret Power' - New Zealand's role in the International Spy Network by Nicky Hager and published by Craig Potton Publishing. "My wife purchased my copy for Christmas, unfortunately I left my copy on the train; luckily this was the third time of reading. In keeping with modern practice it has not been handed in."

The book covers not only the input by NZ but feasibly the manner in which our own GCHQ operates. There are fourteen chapters, and five appendices, 299 pages in all.

Chapter 2 outlines the spy network, and in particular, UKUSA. Chapter 3 reveals the way in which ECHELON functions and Chapter 4 explains the role of the UKUSA in the Cold War.

In the remaining chapters the author looks at the secrecy rationale, the 'Lords and Masters' who control the facilities, how the various styles of eavesdropping are carried out and exactly what the secrets are. (The information available in this book is a must for any person with an interest in the covered subject, you do not need a degree to surmise that one station's function must be the same as another station's within the alliance). Photographs and illustrations compliment the text. Acknowledgements are given to Duncan Campbell and Jeff Richelson and one forward is given by David Lange, Prime Minister of NZ 1984 to 1989.

The book published in 1996 and now reprinted is available at a cost of NZ\$ 26.50 plus NZ\$22 airmail or NZ\$15 economy post. Craig Potton prefer payment by Visa or Mastercard, but will accept Postal Orders.

Craig Potton Publishing	Phone:	64-3-548-9002
PO Box 555	Facsimile:	64-3-546-9192

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New Zealand

email: info@cpp.nz
More info: <http://www.fas.org/irp/eprint/sp/index.html>

Paul concludes. "This is the best ever in factual writing on intelligence matters, that can be purchased. It is well worth the money and makes others look like poorly written novelettes".

Greetings now to Lars (Germany). Thank you for your logs and letter. He tell us that he found the following in an old radio publication which mentioned transmissions by Interpol, which translated as follows: "To keep clear an existing channel from other stations the central broadcaster transmits at short intervals their call sign in CW" - This is almost certainly HEP, but why from Switzerland when Interpol HQ is at Lyons - complete with 4 HF log-periodics?

Quick hellos now to regular contributor Vassily (Moscow) and to Hans (Trier, Germany), thanks for all the logs which are most appreciated. Greetings to Gert in Holland and congratulations on your recent wedding.

Staying in Germany, Kai sends us some interesting information about the espionage radio transmissions of the former DDR. The recently published book "100 Jahre Funktechnik in Deutschland - Funksendestellen rund um Berlin" describes in detail the SW facilities of the Ministerium für Staatssicherheit (MfS at Zeesen.

Zeesen is situated just a few kilometres south of Königs Wusterhausen. In 1936 a large SW broadcasting facility was built (the same year as the Olympic Games in Berlin). In 1945, the whole equipment was confiscated and transferred to the USSR, the buildings and antennas were destroyed.

In 1958, the DDR - PTT decided to re-establish a SW broadcasting facility at Zeesen. At an advanced stage the MfS stepped in and in 1960 opened its SW transmitting station. The station consisted of a transmitter building, a house for the emergency generators (6 turbo charged diesel units with a capacity of 960 kVA) and antennas.

Until 1990, a total of 32 SW transmitters were in operation in all the usual modes. 4 water-cooled transmitters from the USSR had a power of 25 kW, the remaining transmitters were air-cooled models, built in the USSR & DDR, with powers ranging from 1 to 20 kW. The transmitter hall was 50 x 14.5 metres and had a control cubicle in its centre.

The antennas were installed on 62 masts of 30 metre height and three towers of 45 metres height. In addition the station had a tower 59 metres in height for microwave links. The SW antenna array included 9 horizontal broad-band dipoles, 8 verticals, 4 log-periodics and 9 rhombics and matrix switching facilities.

ENIGMA readers will not be surprised to learn that the site was double fenced with floodlights. The transmitter house had a further tall high-voltage electric fence around it; in addition the site was patrolled and guarded by heavily armed guards.

In 1990 the PTT took over the grounds again. The equipment was dismantled and part of the building is now used by the Deutsche Telekom telephone service.

From Germany to Japan, and hello to Takashi in Nagasaki. A fine selection of logs and some interesting observations. Cherry Ripe (E4) is reported with powerful signals. Also reported coming in well are Counting Stations (E5). He asks for a full schedule! Sorry but this is not a station which remains constant enough. Please See earlier comments in response to letter from Harold. Lots of Phonetic Alphabet stations (E10) confirming its worldwide coverage.

Several stations which are based in Asia are also very busy. New Star Radio (V13) is reported to be very powerful in the daytime. North Korean (V15) is still very active and is sending number transmissions on SW and on 657 kHz MW which are giving excellent reception in Western Japan. Cluster Beacons (MX) are giving interesting results with many beacons in the clusters which cannot be heard in Europe. The reception in Japan is as follows: (Those underlined not heard in Europe)

5154 (E, F, K, V), 7039 (C, F, K, M, P, S), 8039 (C, F, K, P, S),
10872 (C, F, P, S), 13528 (C, F, K, P, S), 16332 (C, F, P, S),
20048 (C, F, P, S). (Others heard in Europe not listed here).

Back from the Far East now to the East of England and Peter (Saffron Walden) (Essex). A fine collection of logs and observations. Starting on Christmas Day when he remarks - "I made a point of listening on the evening of Christmas Day and it was obvious that the spy business doesn't take a day off; I heard Counting Stations (E5), Russian Man (S7), German Lady (G7), two separate English Men (E6), Lincolnshire Poacher (E3) and jammer, M12 & even a German 2 Letter station G16). He goes on to comment on activity, Counting Stations (E5) in the shape of Cynthia continues her career; activity is down from the all time highs of the autumn of 1997. There have been many changes to the operating schedule with each passing month with some long-standing frequencies discontinued. Rather like some other stations, Cynthia likes to return to her old frequencies over time. Staying on E5 for a moment the call '383' has been heard sending a message. '383' in English and '545' in Spanish (V5) have the curious distinction of sending the familiar call up for 10 minutes but at the sound of the tenth 'tone' abruptly going off air and never sending a single message. ' 21.00 UTC on 9090 kHz on SUN 5th April - '383'. On previous occasions, when 383 was the "Call", such as in FEB and MARCH 1993 - and earlier, as mentioned by Simon Mason in his "Secret Signals" book, the transmission terminated without a "Count" or a 3/2f message after the 10-minute "383" warm-up and went off. However, this was not the case this time, "383" being followed by "Count 175" and the usual 3/2f format'.

He also comments on the major changes which have taken place by Swedish Rhapsody (G2/M4) - see station news. Following our feature on E5 over issues 13 & 14 Peter has kindly agreed to put German Lady (G7) under the spotlight and we

will be carry this in issue 16.

Greetings now to Andreas (Landsberg, Germany). He sent us a detailed letter and comments on the last issue. First off, the subject of whether listening to Number Stations is legal, a point raised by Peter in issue 14. A recent court case in Germany raises some interesting points. The radio journalist Nils Schiffhauer won a trial against the authorities who wanted to prosecute him for listening to Police frequencies. He also published frequencies and gave details of what could be heard in German radio magazine. The trial was, however, a success for Nils. The judge ruled that "it is forbidden to listen to broadcasts not intended for the public, but how will the public know what is and is not intended for them?" The judge said "everything in clear speech seems to be intended for the public, and encryption systems should be used for all other transmissions - breaking these would be illegal." The judge recommended that all systems in clear speech broadcast a message "This broadcast is not intended for the general public" twice each minute". The same would apply to Morse stations, too (Ed.) Just imagine the inconvenience this would pose for agents taking down messages! So Germany is looking for a secure police communications system. Andreas suggests that Number Station operators broadcast such a message, otherwise it is legal to listen to them in Germany. He also comments on our new News Round-Up feature and hopes it will become a regular slot. We have had a good response to this, please keep contributions coming in.

On the subject of HF sites, he tells us that he recently came across a report that might help us to locate transmitting stations. It appeared in a air/spaceflight journal, "Flieger Revue", edition 5/1998. A report about transmitting stations concerned an accident in October 1997 when an hydrogen balloon crashed close to the transmitting station at Nauen. The reason was that current was induced in a metal ring holding the balloon - the ring became hot, the cover "melted" away, hydrogen escaped and the balloon exploded. The report dealt with the problem of pilots receiving information about dangerous transmitting stations, that could cause engine malfunctions. The maps of the ICAO don't list these transmitters in detail. But the Air Force does. So one suggestion is to look into the "Militärisches Luftfahrt Handbuch" (Military Aviation Handbook) for "High Intensity Radio Transmission Area" (HIRTA). As this literature is NATO standardised, it could provide us with some useful information about HF sites, and after sifting out known locations, more secret sites may remain. (Used this method long ago with success but only in U.K. - Ed.) Hobby pilots are advised to ask local aero clubs or the Federal Aviation Bureau (Luftfahrtbundesamt). The book also contains other information about areas of high risk, such as over nuclear reactors, military air zones. Do other ENIGMA members have access to this kind of information?

From Germany back to Britain and Dominic (Cheltenham). He recently joined ENIGMA after reading about us in Shortwave Magazine. He recounts an interesting story: "About 7 or 8 years ago while searching the 4 & 5MHz region I received a female voice reading out a list of numbers in a foreign language. I thought it might be German, so I taped about 5 minutes of it and let my scout leader, (a GCHQ employee) who spoke the language fluently, have a listen. What he said was a bit of a surprise to me, "It's nothing much, just a message for some kind of secret

agent working for Germany". He translated the tape and from what I remember it contained strings of 5 numbers, these were preceded by two electronic tones. I soon forgot all about it until March 1997.

I was in Lowe electronics in Bristol buying a new receiver when I saw a back copy of SWM containing a feature on numbers stations. When I looked at the list there was one which stood out, The Two Letter Stations (G16,E16). This was the strange voice I had heard years ago, and looking at the characteristics they were all the same. Lowe kindly photocopied the feature I rushed home to see if I could pick up more stations - and I haven't looked back since". (Ed note: Who says GCHQ are not helpful!)

Staying in the Cheltenham area we greet Dave (Shropshire). He congratulates us on the details about Merlin communications -100% correct, (Lincolnshire Poacher article - last issue) however, we did make a mistake with BEMRS. This should be British East Mediteranean Relay Station and not BBC-EMRS. He tell us that the authorities on the Island do not like the incorrect version on envelopes - the same is true (not mentioned in ENIGMA) of the BBC Eastern relay at Masirah in Oman. He also asks what happened to the "U" single letter transmission which operated on 6243 kHz during the 1970s and 1980's.....and what became of Schulungssender des Österreichischen Bundesheeres the Austrian Army Training Transmitter which operated on 6221 kHz or 6250 kHz in the 1970s....or Turkish Police Radio on 6400 kHz?

He also mentions the use of 6840 kHz (Simon Mason's column page 39 last issue). "November 1990 - are you sure this was a BBC WS Feeder frequency at that time? I thought all the sideband transmitters (1 at Rampisham and 2 at Daventry) had closed by then. Perhaps others such as British Telecom at Rugby etc. or SSSC (Services Sound & Video Corp.) at Chalfont were putting out SSB feeders at that time?" (Ed note: Chalfont has no HF, but may have used HF transmitters at a BT site).

Greetings to Michiel who sends us an email from Doorn in The Netherlands. Regarding part two of the Lincolnshire Poacher article, I would like to add one observation to the Mistakes paragraph. Here's my logbook entry from 20 July 1994 at 13.17 UTC on 14487. Details: Female speaker with 5-figure groups. According to 'Langley Pierce's book, this is MI6 perhaps via the RAF site at Akrotiri (Cyprus). Seems a good assumption: the familiar audio of RAF's VFT aggregate was heard for a while on the background!

Regarding the REM4 - station, there was a detailed article about it in a voluminous utility guide from an Austrian DX organisation, published in the late 1970s or early 1980s. Unfortunately, this guide did not survive my most recent archive clear-up. Anyway, the organisation behind REM4 is called Institute of Applied geophysics (IAG) Moscow. I am not aware that the IAG has ever been seen as a covert operation of any kind.

Almost finally, thanks go to Guy (Portsmouth) Rob (Essex) and Andy (Merseyside) who each send regular logs and observations. Thank you.

May we take this opportunity to say thanks to everyone who writes sends facsimiles or emails - even postcards! Your contributions are very much appreciated. We look forward to hearing from YOU.

THINGS THAT GO BUZZ IN THE NIGHT!

Welcome to another Buzz section. Before we go into a few regulars a couple of questions from readers. First, Paul in Hertfordshire who asks about a signal noted across the range between 9920 and 10060 kHz. He describes the signal as an 'Oriental' flute playing a tuneless series of three or four notes starting with a longer higher one and then playing the three or four note sequence down a scale decreasing in pitch. The whole thing then starts again and this apparently continues ad infinitum. The signal was noted at 10.10 UTC and was still going at 17.35UTC. At first he thought the wide-band effect was down to his receiver and tried a different one but still heard the station. The signal is very weak. Has anyone else come across "The Continuous Flute" ?

Our second question is a little easier to answer. Simon in Shropshire asks, what is the 2 tone bleep on 4420 kHz, a sort of "Doorbell" type of sound? This is Royal Navy/Coastal Control Channel D. The transmitter's at St.Eval, also possibly Crimond and Inskip etc.

John asks what the bubbling fizzing sound he hears across SW every 16kHz or so? This is television line timebase interference which is generated by a nearby television receiver and appears every 15625 kHz.

Now some quick mentions to some of the regulars who are still around.

XC - Crackle From early June noted on new frequency 4426 kHz. Previously resident on usual 5500/5505 kHz for a number of years causing interference to Shannon Air Radio on 5505 kHz. Try evening time in Europe.

XM - Backward Music Station After commenting on a lack of activity last issue the signal seems to have come back to life. Heard in Europe and Australia this signal must have wide coverage. Noted at various times between 05.00 & 21.00 UTC - it could turn up any time. Frequencies reported: 4376 4410 4420 4740 5178 6755 8123 9035 kHz. Simon in Australia comments "BMS seems to be associated with Naval or Marine frequencies". Comments welcome.

XX - The Pip Alive and well. 05.30 to 14.00 on 5450 and 14.00 to 05.30 on 3757 kHz. The latter frequency is in a band shared by Amateur's and we have noted comments being passed about interference from 'that piping' thing. Would anyone at 'Intruder Watch' like to comment? The big news on "The Pip" comes to us from John in Derby. "On April 24th at 22.30 UTC, I tuned into XX "The Pip" on 3757 kHz. At 22.41 UTC the piping stopped and a male voice made an announcement in what I think was a Slavic language, a number of phrases were given with short pauses in between. This only lasted two minutes at the most and the piping came back on". This sounds very similar to the Buzzer (S28/XB) noted on DEC 24th 1997. Thanks, John for that. Readers please keep an ear on this one!

The Blank Carrier Mentioned last time around, this signal appears on 5305 kHz on the hour for exactly 20 minutes. The process repeats each hour. We mentioned that it can be heard between 09.00 and 22.00, but recent monitoring at 00.00 UTC revealed the signal to be present. Feedback from Mike in Kent who kindly sent the

00031
00031

05205
05205

2127
4HF2

following observations: "I tuned in early for a further listen to 5305 as the channel was reasonably quiet. There is a "signal" there. The unmodulated carrier came up about 500msec before the "hum" started and I had a good recording for a few minutes before some flutter set in. More information on this signal is required.

Another ENIGMA exclusive.

XF - Faders Chris's favourite hobby horse. A letter from Richard gives us a exclusive breakthrough on these signals. He writes. "I've monitored the "Faders" quite a few times and have noticed a remarkable resemblance to frequencies that the USAF/US Army used in Europe about 5 or 6 years ago for their voice nets "INFORM" & "GANG BUSTER". These nets were used to pass EAMs (Emergency Action Messages) to US Air Force and Army bases. It used to be extremely active but following the US military withdrawals from Europe and consequent base closures the Net went off the air."

See 'Frequency Match List' with this article and let us have your comments.

Richard writes; "Resulting from my suspicions I decided to investigate further. I packed my radio and went along to "RAF" Mildenhall, Suffolk and sat opposite the USAF HF transmitters (a small compound) and Faders were transmitting on 9125 and 6875 kHz, sometimes in parallel and at other times they operated independently. They were very busy. When I connected an aerial to my receiver I could hear replies from other Faders in the net. Later in the afternoon 6875 was dropped and 5327 kHz came into use. Then early evening 5327 dropped, 6875 came back and 9125 went up to 9126 kHz. Another possible location in the UK would be "RAF" Barford St John."

'Faders' may be part of the virtually unknown LOCE network, NATO's only secure data transmission system. LOCE - Linked Operational - Intelligence Centers - Europe. The analysis centre is located on a military base at Molesworth. It collates and interprets "intelligence from satellites, piloted and pilotless spy planes, electronic surveillance and human agents". Comments welcome.

We gave Faders a mention in the ENIGMA column of the May issue of Shortwave Magazine and hope for some further feedback. For all the wonders of modern science these unusual signals seem to have evaded the clutches of demodulation! We cannot emphasise too much how busy they are. If you have never tried to find them then tune in soon!

This particular mode (see previous issues for description/habits) shows little respect for other users and operates across the Fixed Services, Amateur, Aeronautical and Shipping bands. We have heard it transmitting on top of a Coastal Station which was sending out a warning of floating debris. Recently a Fader was noted blocking out a station on 10480 which was sending a radio check under the callsign I4CF.

S28 (formally XB) - Buzzer 4625 kHz. Our "World Exclusive" Buzzer sends a message created a mixed response! Mike in Reading wrote: Re: "Buzzer 4625 kHz This was a hoax message you referred to I assume". He adds that the Buzzer does vary its transmission. Note that the two-tone buzz which normally appears at 1 minute to the hour has been known to appear at other times, and miss the h+59 'slot'.

Kai writing from Germany joins in the debate. "In my opinion the destination of this frequency cannot be Vienna, as it is simply too low for daytime reception there. Already here in Eastern Germany The Buzzer fades in just before sunset. If this is a feed to Vienna, they would use a much higher daytime frequency. The selection of the

60 metre band 24 hours per day leads me to assume that the intended audience is somewhere in the CIS itself: During daylight the range is not much more than about 1000 km, at night the transmitter suffers no dead zone. With reference to the message of Christmas Eve the relationship between S13/14 and S28 (Buzzer) leads me to conclude that this is an alarm transmitter for the Russian Army and that the message sent was a test transmission".

At ENIGMA we have continued to make our own investigations. Despite three letters each to the State Frequency Committee and the Radio Communications Authority, (both in Moscow) neither agency has had the courtesy to reply. This suggests that the official line is to say nothing and hope we will go away!

New information. For reasons of confidentiality several words are removed from the following statement. 'Thank you very much for your letter of ****. I would like to inform you that at our request ***** specialists ran a triangulation on the "Buzzer" radio station. I quote from their report: "We have carried out a search/measurement together with partners in Germany and Sweden. It seems that the station is sending from Russia, in the Moscow region.

Earlier we asked the Polish communications administration about the 4625.0 kHz frequency and never received a reply. I think that the professional HF triangulation from *****, Sweden and Germany are more accurate than the earlier "Thompson" narrow base triangulation made from France. Please allow me to draw your attention to the fact that at the end of every hour the "Buzzer" changes its signal and gives a steady variable signal tone (most frequently on the 59:00 to 60:00th minute). At this time we are preparing to ask the Russian Communications and Information Committee. When I get more information I will let you know. The available data still does not confirm anything completely but I suspect that the "Buzzer" originates from the Moscow region and has some military purpose. The next stage of the research would require an expedition to the Target Area.' (Thanks to 'A' for this information). Our thanks to David (Wales) for the original recording and Vassily (Moscow) for his assistance.

Frequency 4625 kHz - December 25th 1997 - 21.58 UTC.

We can confirm the "Buzzer" does in fact have a callsign. "This is UZB-76, this is UZB-76." The "message" was constructed of numbers and selected words from the Russian phonetic alphabet which included; Boris, Roman, Olga, Mikail, Anna, Leonid. The initial letter of each word spells "BROMAL". This word does not exist in the Russian language. The word BROMAL was spoken and then given phonetically.

English translation of words spoken are underlined.

"This is UZB-76. This is UZB-76". (2 words? Unintelligible - fading). Nul Vosjim (08) BROMAL (Spoken as one word). (Unintelligible few words - include figures) "Dvatsat -Shest" (26) "Jedinitsa chetjorka nul nul petjorka" (14005) "Boris Roman Olga Mikail Anna Leonid" (spoken as individual words). (Figures!) "Simjorka (?) chetjorka dvoika njorka (?) njorka (?) njorka (?) jedinitsa chetjorka (? 42???) (14) (8 figures) (All repeated once).

Numbers used: jedinitsa (1), dvoika (2), ? (3), chetjorka (4), petjorka (5), ? (6), ? simjorka (7), vosjim (8), ? (9), nul (0). Comments welcome.

FADERS - FREQUENCY MATCH LIST

Acknowledgements to Richard.

	2403 A1		7305 A14	(F)	<u>13431 J02</u>
	2452 A2		7368 ???		13479 A23
(F)	2470	(F)	<u>7384 A15</u>		13545 A24
	3060 R13		7424 A16		14374 A25
(F)	3188	(F)	7500		14423 A26
(F)	<u>3215 A3</u>	(F)	7658		14505 A27
(F)	3382	(F)	7665		14682 A28
	3688 T01		7740 A17		14705 L01
	3760 J13	(F)	7813		15476 A29
	3931 B05		7919 A18		15560 A30
	3946 A6	(F)	7997		18179 A31
	3958 A7		8118 T09		18744 A32
	3973 U06	(F)	8185		20539 A33
	3996 ???	(F)	<u>9126 ???</u>		20604 A34
(F)	<u>4020 ???</u>	(F)	9138		20609 A35
	4035 V07	(F)	<u>9244 B09</u>		20349 A36
(F)	4062		9477 A19		20311 A38
(F)	<u>4458 F10</u>	(F)	<u>10139 A20</u>		
(F)	<u>4477 A8</u>	(F)	<u>10478 T11</u>		
	4480 P07	(F)	<u>11100 A21</u>		
(F)	<u>4496 ???</u>	(F)	<u>11515 ???</u>		
	4545 S06		11641 A22		
(F)	<u>4560 L02</u>				
	4612 A9				
	4821 E05				
	4843				
	4933 M04	"INFORM NET"			prefixed A01 to A38
	4980 ???	"GANGBUSTER NET"			prefixed B05 to V07
	4987 T06	"UNKNOWN DESIG."			prefixed ???
(F)	<u>5092 A10</u>	FADERS	(F)		
(F)	<u>5105 A11</u>	<u>FADERS UNDERLINED</u>	(F)		Match with
	5146 A12	frequency used by the above networks.			
(F)	5195				
(F)	<u>5311 A13</u>	From a total of 38 known Fader frequencies 19			
(F)	5328	match with the networks detailed above.			
(F)	5398	Coincidence? Definitely not!			
(F)	5468				
(F)	5787	Comments welcome.			
(F)	<u>6505 J10</u>				
(F)	<u>6796 C03</u>				
	6819 A13				
(F)	6824				
(F)	6848				
(F)	6875				

About this feature. In this and forthcoming issues we will be examining the story of SOUD. In part one we will be looking at the background from conception to the early 1990s. This will provide the platform to examine SOUD's radio communications in greater detail. In part two we will be concentrating on the technical side of operations and detailing SOUD's activities on Shortwave, its links with number stations and its format, traffic, modes and mistakes. In addition we hope to bring you up to date on SOUD between the early 1990s and the present day. Information has been drawn from a number of sources including translations from Stasi files made by Bodo Wegmann & Monika Tantzsch, seized after the collapse of the Berlin Wall, and from research conducted by dedicated members of Worldwide Utility News and gathered painstakingly over a considerable period of time. We are grateful to everyone who provided us with information for this feature, particularly Ary in The Netherlands & Andreas in Germany.

PART ONE

S.O.U.D.

"Sisteme Obyedinenovo Utschotya Danich o protivnike"

"System for the Unified Registration of Information Concerning the Enemy"

"There is no other example of such widespread cooperation between services"

► INTRODUCTION - "SOUD gathering information about all possible 'enemies' of the alliance" - SOUD is the fascinating story of a secret organisation which was born in the very depths of the 'Cold War'. With H.F. links from its headquarters in Moscow SOUD built up a database the likes of which had never been assembled before. In our feature we will be looking at SOUD from its conception right up to the present day, detailing the communications and intelligence gathering efforts of a vast organisation. A unique look behind the curtain!

The early 1970s. The Intelligence Services of the Warsaw Treaty Organisation (WTO) - began bilateral cooperation on the basis of new treaties. With new political moves towards the West, the socialist countries became more open towards their citizens and there was closer integration between the socialist countries themselves. It now became possible to travel from the GDR to Poland or Czechoslovakia without a Visa. In addition, there was greater contact and freedom between the GDR and the FRG and travel between West Berlin and the FRG and vice-versa became easier. Of course, it was not long before the Western intelligence services began to take advantage of these new opportunities. Other problems began to come to the fore with international terrorism rising, and organisations keen to smuggle people from the GDR to the West.

In 1972 the Olympic games in Munich had seen an attack on the Israeli team by Palestinian terrorists. The 1973 Youth World Games were scheduled to take place in Berlin and in 1980 the Olympic games were to be held in Moscow. The East was keen to avoid any such incidents with the eyes of the whole world watching on.

Cooperation already existed between the KGB and the MfS and agreement had

been reached in 1973 on a joint plan to pool information within the socialist countries. In 1974 the MfS signed an agreement to cooperate with the Bulgarian and Polish services, and in 1977 with the Czechoslovakian StB. Cooperation also existed between the MfS and the Hungarian AVH but to a lesser degree. Romania was not integrated into the networks of the Eastern intelligence services.

All this was not only intended to cooperate against the Western intelligence services, but also to gain a better handle on the activities of opposition movements inside the socialist countries who were controlled from Moscow.

SOUND is born. In the early 1970s what had started as bilateral cooperation had moved to the multilateral level. Cuba was to play host to a meeting held in 1974. Havana was to be the birth place of an idea which was to become SOUND. Those who attended were later to 'sign-up' to an organisation which was to fight against "ideological diversion". It was not until 1976 that a meeting held in Berlin would set out the blueprint. The KGB made a general proposal, which the MfS followed. Only the Polish delegation had other ideas - but would sign up regardless.

"Valeri Kryuchkov from the Soviet delegation said the project should have started earlier - and further delay would cause damage to the partners".

At the meeting held in Berlin it was agreed on the technical terms of reference. Agreement was reached between the respective countries and the head of the Directorate of Governmental Teleprinter Messages of the KGB. A proposal was made from the MfS who requested a direct teleprinter link with HQ in Moscow, and an H.F. link for more urgent questions.

► THE PLAYERS - The seeds had been planted. November 1977 and SOUND became a reality - the member states signed the SOUND Treaty. The members of SOUND were each allocated a code number when sending or receiving information: 1 - Czechoslovakia, 2 - GDR, 3 - Poland, 4 - Hungary, 5 - Bulgaria, 6 - Cuba, 7 - Mongolia, 8 - USSR, 9 - Vietnam.

► DEVELOPMENTS - The next step was to begin the process of registration. It was planned not only to register persons, but also several other central registration systems were to be established, including one for the registration of foreigners and another about the "objects of operational interest", registration and the delivery of espionage tasks and the recording of official political and scientific information was also to be included. The development of the database commenced in 1976 at the computer centre of the counter intelligence department of the 2nd directorate of the KGB. In the mid - 1970s they already had five central (electronic) recording systems and it was planned to have one central system with different sub-systems.

SOUND was part of the 1st directorate of the KGB, the foreign intelligence service known as PGU. The HQ operated their central memory store and was responsible for building - up the system, running it, coordination and the registration of the inquiries. It was a stand alone department within the 1st directorate.

In 1979, they had 80 employees, 30 of them in software development. The HQ of SOUD had three sub-departments:

- 1) Management of the system/coordination with other members to further develop the system.
- 2) Analysing the incoming information/preparation for recording/data entry/ answering queries.
- 3) Registration of incoming SOUD forms/maintaining archives/micro-filming the documents.

At the outset all employees came from the KGB, it was intended to also employ members from other partners. The flow of information from the local service to HQ was initially only via the local KGB residence. Later coded teletype lines were introduced from the partners to the HQ.

The development of SOUD moved along in stages. First they built up the computer system, then the registration of persons. Later they went onto record the organisations and institutions of the enemy. The computer system was prepared during 1978. From January 1979 until December 1980 the incoming record forms from the member services were analysed and prepared for registration. Between January 1979 and May 1980 the detailed programming of the computer was carried out. From May to September 1980 SOUD tested (during the Moscow - Olympics). From September to December 1980 the results of these tests were analysed and corrections made. December 1980 and the 'live' SOUD system was up and running.

The different branches of the intelligence services had to collect the information on special forms. These were then passed to a 'bridging section' who would translate the information into Russian, the working language of SOUD. These were then sent to the relevant department of SOUD in Moscow and once processed would receive a response if information/answers were subsequently available.

► **WHO WAS THE ENEMY?** - This is a most 'enlightening' look at how the East viewed the West particularly during the Cold War years. SOUD issued guidelines on its information gathering requirements. Each was allocated a prefix of PK.

PK - The abbreviation PK is taken from the original Russian text translation Personnel Category (Personkategorie in German).

PK 1 - Collaborators and agents of enemy intelligence services and persons who are suspected to belong to or to have connections with an enemy intelligence service. Note: In 1988 Monitors and Inspectors of military activities working on the basis of international treaties was also added into PK 1.

PK 2 - Leading Collaborators of centres of "political ideological diversion" and collaborators of such centres who directly work against the states of the socialist community.

PK 3 - Members of terrorist organisations, individual terrorist, hostage takers, aircraft and ship hijackers, "diversant" and persons suspected to be in contact with a terrorist organisation or support one.

PK 4 - Members of Zionist, enemy emigrant - clerical and other organisations. This category also includes organisations helping citizens of the socialist countries to escape, known as "criminal man-traders"

PK 5 - Persons taking orders from enemy intelligence services, centres of political - ideological diversion, Zionist, enemy emigrant - clerical and other organisations who were carrying out subversive acts against the socialist countries.

PK 6 - Known provocative agents from the enemy, others suspected to be sent by enemy services, foreigners and persons without citizenship with whom in the process of cooperation there was no success for an unknown reason.

PK 7 - Persons offering dis-information on or selling the same material and technical models to different states of the socialist community for material reasons.

PK 8 - Persons who carry out provocative actions on the territory of socialist states or against their embassy or their citizens in foreign countries.

PK 9 - Persons who are expelled from socialist countries, or who were not allowed to enter one country of the socialist community.

PK 10 - Persons who committed very dangerous crimes against a state, hide in foreign countries and for whom the authorities of Soud members search. These include crimes of high treason, acts of terror and sabotage, endangering of international relations and hateful agitation against the state.

PK 11 - Diplomats and collaborators of embassies and consulates of NATO member countries and of Japan, The Peoples Republic of China and Thailand who are in the countries of the socialist community.

PK 12 - Correspondents from NATO member countries, Japan, The Peoples Republic of China and Thailand who are temporarily or permanently resident in the socialist countries.

PK 13 - Collaborators of trade and economic agencies as well as cultural centres of NATO members countries, Japan, The Peoples Republic of China and Thailand who are officially registered in the countries of the socialist community.

PK 14 - Members of organisations involved in international smuggling and who work against the socialist countries.

PK 15 - Persons who work to impair the economy of the socialist countries, this includes those searching for economic information, those seeking to recruit specialists and encouraging them to emigrate and those seeking to lever socialist

companies out of work been undertaken in non-socialist countries.

Note: PK 1 to 10 inclusive were part of the SOUD treaty of 1977.

PK 11 to 15 were added in October 1985.

Diplomats and Correspondents from Thailand were registered from 1988 onward after a special appeal from Vietnam.

► SOUD EXPANDS FURTHER - Success was indeed the name of the game and in 1986 SOUD expanded its vast database to gather information on organisations and institutions of interest to the member countries. This was in addition to the work already well under way on individuals.

No country in the Eastern Bloc was better placed (or perhaps quite so enthusiastic) than East Germany to gather information. The whole structure of control was based on the very ideal of monitoring everything and everyone. The MfS had already built up an internal database using its own "connection department" which was part of the aptly titled "Central Analysis and Information Group" (ZAIG). Officially referred to as ZAIG 4/4 it was not part of the KGB but a division of the MfS. ZAIG worked closely with Moscow and members of SOUD.

The way in which members cooperated with SOUD is revealed in detail in a document from 1989 which explains the structure of the MfS - Moscow link.

Branch 1 (5 employees): decoding and translating answers from Moscow, making the process as effective as possible, suggesting improvements and developments,

Branch 2 (4 employees): giving out answers to questions received from Moscow HQ, cross checking data between different users.

Branch 3 (11, later 13 employees): teletype-connection to the HQ, translation of inquiries and other documents into Russian.

By this point you may be waiting to hear how well the system was working. SOUD was capable of recording 300,000 people with an average 1000 bytes of information per person

The number of people registered by SOUD up to the end of 1987 was as follows:

PK 1	102,223	PK 2	12,332
PK 3	13,140	PK 4	9,337
PK 5	6,941	PK 6	2,082
PK 7	134	PK 8	803
PK 9	31,528	PK 10	1,093
PK 11	5,576	PK 12	2,471
PK 13	153	PK 14	334
PK 15	196		

From 1979 to the end of November 1989 the MfS had supplied the details of

74,884 people to be registered in the SOUD system. Under PK 1 (of most interest to ENIGMA readers) 4,441 suspected members of the FRG-secret service (2,213 of the BND, 1,507 Verfassungsschutz, 721 MAD) had made it to the database. A further 4,424 American services, 737 of British, 537 of French, 286 of Dutch, 24 of Italian, 28 of Finnish, 20 of Iranian, 45 of Iraqi services - and more than 7,000 where no particular state or service could be confirmed were also included.

The information in SOUD could be updated and entries could also be deleted. This was carried out when men reached the age of 80 and women 75, or when they were no longer considered suspicious or had died. The MfS carried out widespread checks. If a person was considered suitable for cooperation or was perhaps to be used as a messenger he/she was checked through SOUD. The same applied for anyone who was from the west who wanted to live in the GDR. Inquiries using the database were also carried out on groups of people, information on particular topics, the year of birth, place of birth etc. and "continuous checks" could also be made on individuals.

Inquiries could be given various levels of priority. A low priority inquiry would take between 5 and 14 days. Urgent inquiries were answered in 24 hours and "flash" inquiries 8 hours. There were five modes when answering an enquiry. It was possible that the agency that registered the person was informed if another agency was later to request it from SOUD. It was also possible that the inquirer would not be given the information only the agency who registered it or vice-versa. The original provider may have been informed if another service sent new information about a person they had originally registered. This was a complex system!

The flow of information was to take place via the post and teletype links of the local KGB-affiliate. In the summer of 1983 the ZAIG 4/4 installed a "direct Duplex connection" to the HQ in Moscow. Via this line, only "urgent" or "flash" messages were sent/answered to/from Moscow.

Earlier, we mentioned that organisations in addition to individuals were also registered in SOUD. The theme of using the PK prefix continued and ran along with the existing system.

PK 1 now included: Enemy Intelligence organisations
PK 2 now included: Centres of political-ideological diversion
PK 3 now included: Terrorist organisations
PK 4 now included: Enemy emigrant organisations

► **MEETING OF THE MINDS** - Between March 18th and 20th 1986, SOUD members held the first multilateral conference in Moscow. In the MfS archives, only the speech of the leader of the MfS-delegation was discovered. In general he mentioned examples of how SOUD had helped in the work of the MfS. In general it was discussed that the percentage of positive answers from SOUD were low and not all the answers of great use. It was also decided that conferences should be held every two years, however there were only ever two meetings - events in the

USSR would later dictate the agenda.

More information is available about the second meeting. Delegates boarded their Tupelovs and headed for Sofia in Bulgaria. The conference was held between May 16th and 20th 1988. Figures concerning the registration of individuals made over previous years was disclosed. (With these kind of figures it was little wonder they were so busy).

The number of persons registered with SOUD each year:

1977	2,600	1980	31,944
1981	13,699	1982	22,652
1983	16,400	1984	13,959
1985	18,476	1986	25,967
1987	21,062		

The MfS wanted to make SOUD a multilateral control organ with rights. In general, it was felt important to standardise the technical equipment of each service - a requirement not achieved, and the exchange of information needed improvement. An important advantage of SOUD was its ability to cross reference an individual who may be a suspect of more than one agency. But operational ability fell below expectation. The data in SOUD was often out of date, some members stated that perhaps only 25% of information was usable. In 1986 & 1987 SOUD received 114,000 inquiries, and gave out information about 10,500 individuals. They also had more than 1,300 topical inquiries. The number of inquiries was rising all the time. Other weak points were the form filling and concerns about the protection of data. The MfS praised the use of SOUD in the identification of US citizens (journalists or embassy personnel) who visited the GDR for short periods of time. The MfS also stated that SOUD should be used more to combat internal opposition.

The leader of the Bulgarian delegation announced that they had registered around 1,700 people in the SOUD system during the previous year. Most of the PK1, working for the American, Turkish or Greek service. In 1986/87 they made 5,000 inquiries and received positive answers to 7.5%. They made 48 topical inquiries and received 50% positive answers and information about 1,100 people. Information had also been gathered about Western services whose members had attended meetings in Bulgaria.

Vietnam advised that they were to maintain their manual systems of working and that they had little knowledge of modern technology. They also requested the inclusion of information concerning citizens in Thailand - this was agreed.

The Cuban delegation confirmed that they were satisfied with the effectiveness of the "flash" inquiry system receiving an answer in 24 to 36 hours. Mongolia said they had less use for SOUD in their country, as they had little contact with foreign countries.

The next meeting was scheduled for 1990 in Budapest.

"BORED & LAZY PEOPLE MEET BABBLERS"

◆INTRODUCTION

Only in ENIGMA could you get a title like that! In the last issue (14) we requested information about several stations which could be monitored in the United States. One of the successes of ENIGMA has been our ability to untangle stations by identifying formats and habits. Operating from England and concentrating on the European, Middle Eastern and C.I.S. areas, information about more distant stations is often scant. Thanks to our readers in the U.S.A. we are pleased to be able to bring you more information about two stations which have eluded the newsletter until recently.

◆V20 THE BORED PEOPLE

The first is new designation V20. This station will now be named The Bored People (incorporating the other descriptions sometimes used of Lazy Man). V20 is actually referred to more commonly as the "Bored Man" in the United States, not Lazy Man, due to the monotonous nature of the transmission format and resulting tendency of the announcer to yawn during broadcasts. In winter the schedule reported is SUN at 15.00 UTC & WED at 21.00 UTC on 6868 kHz and on MON at 20.00 UTC on 6892 kHz. In summer it appears one hour earlier than UTC when Cuba is on summer time and has been noted at 14.00 UTC on SUN on 5135 kHz. Test's have also been heard on 4106 kHz. V20 appears to operate a low power transmitter, which accounts for it not being widely heard. The technical aptitude is also somewhat lacking; maybe explaining why the station sometimes skips broadcasts. The Bored Man does periodically put out a clean signal. However, this is the exception, rather than the rule.

The format of V20 is as follows: On the hour, a live Male or Female (Bored Woman!?) announcer will repeat the following for approximately thirty minutes... "Atencion, Atencion, Atencion; Ere Dos Noventa; Un, Dos, Tre, Cuatro, Cinco, Sies, Siete, Ocho, Nueve, Diez". On one occasion the operators counted from one to twenty. This may or may not be significant to the message. The announcer will often change during the broadcast. Note: last 2 figures are not read out as separate digits, and letters are not read phonetically but by their Spanish names.

The message is, "Ere Dos Noventa" (R290). The R290 message is sent 90% of the time. Also noted are "X301", "X321", "X375" and most recently "C791". The entire transmission follows this simple format (on some occasions salsa or classical music is played between counts) and ends abruptly after 30 minutes with "final final".

Some reports suggest a pause between the first and second digit creating a "C7-91" message.

Two schools of thought exist as to the possible agency behind this transmission. The first indicates that the station may be operated by anti-Castro groups or guerilla forces from inside Cuba. Ed note: Unlikely as Cuban authorities would have found it before now. If anti-Cuban must come from outside Cuba, maybe Florida. On most occasions, there is a lot of conversation and laughter going on in the background. Once last summer, however, the announcer sounded like he was in stark terror. He was literally yelling the message, and was talking so fast that he was tongue-tied after just a few minutes. You could 'feel' the fear in his voice. Ed note: If live and under threat why risk such long transmissions - after all, long messages are not being sent?

The second school of thought points to links with official Cuban Forces. If you listen carefully, you can hear Morse code going on in the background "studio" noise during some transmissions; this has been paralleled to CW nets on 5258 and 5485 kHz which appear to be run by the Cuban army and are audible in the Southern United States. Ed note: Alternatively, they may not be Cuban at all - there is no evidence to say they are. Could be any Latin American country.

Although evidence is lacking it may be possible that another station listed by ENIGMA -V19 may be a relation. A recording of a Spanish Male accompanied by the music 'Don't Cry For Me Argentina' and callsign WTR21 was noted in the mid-1980s by Christain, a blind listener from Germany. (This recording can be found on the Conet project CD). Like certain other stations it was only heard on one occasion so the recording is particularly valuable. The tune was played three times and the message commenced with the callsign WTR21 (the range WAA to WZZ are allocated to the U.S.A.). The message was of a peculiar format the first three digits e.g. 431 were announced - 'four hundred and thirty one' followed by two digits 32 - announced 'thirty two' but in Spanish. This was followed by a short break and the whole message was repeated but this time as the more familiar single numbers. The transmission ended 'fin' and the call WTR21 was again repeated.

◆ V21 THE BABBLER

From Bored People to Babblers and another new designation V21. Some doubts have been raised as to whether this really is a numbers station - but we will give it the benefit of the doubt until evidence is more conclusive. Other reports indicate that it may be associated with the above listed V20 - more on that later.

The Babbler has its origins back in the 1970s. The message consists of a Spanish man or woman, live transmission, chanting or singing a repeating string of numerical groups which are usually 2 or 3 digits per group; the "long" form of the groups is read, i.e. "145" will be read "Ciento Cuarenta y Cinco" rather than individual digits. The same string is read repeatedly, with individual group values varying somewhat, suggesting something similar to "voice telemetry" being sent rather than encrypted text messages. According to some retired SIGINT professionals, this is the format used by former Soviet Air Defence CW nets for target tracking information; so, this could be a similar operation by the Cuban

DAAFAR (Anti-Aircraft Defence and Revolutionary Air Force). This would make it a primitive analogue to the NATO "Alligator" Link systems.

Lots of "long count" tests are conducted. Frequencies are changed infrequently but inevitably. The primary frequency in recent months has been 5688 kHz, but since January 1998, 5637 kHz has become more active. Others noted include 5643 kHz and 5341 kHz which is still in use primarily for test purposes. The frequencies are rather random, but particular frequencies are usually active for a month at a time, and then gradually replaced by another, with a period of both frequencies being active.

Each frequency appears to employ different transmitter sites from day to day, as audio quality and signal strength vary wildly; either AM or SSB may be used on any given frequency. Transmitters are fed by land-line circuits, lots of hum, dialling, and crackling may be heard at times. Operation is sporadic; local Cuban mornings are the most active periods, but traffic may be heard at any time during day or night. Sometimes other Cuban voice communications are heard on the same channels; this is the case with both 5688 and 5637 kHz. Up to four channels have been noted active simultaneously with independent content, but one or sometimes two is more typical. Occasionally, tests on multiple frequencies, including some new and some long-dormant ones, will be heard during the last week of the month, but this doesn't appear to happen monthly. The lowest frequency noted was 3040 kHz, the highest was 8090 kHz, with most between 4 and 7 MHz.

Speculation about the transmissions varies with reports that V20 and The Babblar are related. Reports indicate that a V20 transmission was heard in the background of a Babblar transmission. Digital data has also reported being sent by The Babblar.

During the early 1980s, at least one Babblar station was possibly a "black" operated by the American side. The station was on 3646 kHz at night time (in USA) for several months, utilising the usual format. One night, some audio from a Key West, Florida FM station found its way into the transmitter and was relayed for several hours in the background. The following night the station made a big show of relaying the Russian "Mayak" programme at full modulation from Havana. Draw your own conclusions from that one.

At present this is all the information we have on these stations. We are always pleased to receive more information and comments.

Our thanks go to readers in the United States, Chris, John and a reader who wishes to remain nameless for providing the information and cassette recordings which made this feature possible.

Chris ends: "Sorry these stations don't fit into the nice rigid formats that many European numbers stations do".

LOOKING BACK with 'D'

Czech Mate - The Case of Erwin van Haarlem

On the evening of 2 April 1988, Special Branch detectives raided a third floor flat at 35 Silver Birch Court, Friern Barnet, North London. Inside they found Mr Erwin van Haarlem a 42 year old "Dutch" art dealer receiving a coded CW message on a shortwave receiver. This was the end of one of the strangest spy cases in recent years and followed months of surveillance by MI5 on his home and daily movements.

The story started in 1944 when Mrs Joanna van Haarlem had a liaison with a German soldier in occupied Holland, and the product was a child later christened Erwin. The father died in the battle of Caen, and the mother was shunned by her family due to her relationship with the German, and the fact that she was Jewish. Unable to look after the child, she left him with the Red cross in Prague who said that they would find him foster parents. She had no further contact with the child.

In May 1975 a man calling himself Erwin van Haarlem arrived in Britain on a Dutch passport to work at the Hilton hotel in Kensington. He was in fact an illegal undercover agent employed by either the Czech intelligence (StB) or Czech military intelligence (SFGF) to spy in Britain.

It appears that he was sent to Britain to spy on Jewish dissident groups and collect information on companies participating in the "Star Wars" programme. The true nature of his work, though, may never be known as MI5 admitted at his trial that they did not know what he was doing in the UK for 13 years, and indeed did not know who he really was. It appeared that a high quality illegal agent would not be solely used for this sort of open source collection duty and perhaps was a "sleeper", an illegal who would be activated in wartime. His cover was nearly blown in 1977 when the mother of the real van Haarlem came looking for him, and for a number of years she believed that this man was her son as he gave her heart-breaking stories about his early life. A DNA test following his arrest revealed that there was only a 1 : 18,000 chance that he was her son. The fate of the real van Haarlem is unknown. One report said that he had died as a child in Prague.

Erwin continued working at the Hilton as the purchasing manager until 1985 when he set himself up as an art dealer specialising in miniatures. This presumably would give him more time to deal with his real job as he was self-employed and could spend much time travelling and working from home. It also meant that he could run his routines around his radio broadcasts. Nobody in the art world had heard of him. He also had thousands of pounds of unexplained income, £54,000 having been paid into 10 bank and building society accounts. In 2 years he deposited over £17,000 in his accounts, and an accountant found that pictures he said he had sold were still in his possession. The business was just a "front" to conceal his real activities, and he produced bogus paperwork to make it look as though the business was running normally.

People who knew him described him as a "pleasant oddball", and the landlord of his flat in Alderney Street, Westminster noticed that he changed the locks to the doors and kept the keys to himself. In Friern Barnet, the neighbours noticed that he did not have visitors and rarely spoke to anyone. He was very interested in Jewish affairs and pretended to be Jewish, even twice visiting Russia with a protest group, as he could speak Russian. He spoke English with a mid-European accent. He visited the US to obtain information on Jewish affairs and on the National Task Force, as well as making 3 trips to Austria.

It appears that Erwin was Czech and had probably joined the StB after military service. He was then trained for 3 years before being sent to Austria and then to England. In Austria he was engaged on "orientation" duties to adapt to the West before moving to the target country. He worked first as a waiter and then attended a catering college to build his cover.

"Mr Erwin van Haarlem aged 43, is accused of a breach of section seven of the 1920 Official Secrets Act by doing an act preparatory to the commission of an offence under the 1911 Official Secrets act on April 2. He is accused of recording enciphered information and being in possession of equipment to decipher that information for the benefit of a foreign power".

"They arrive covertly with someone else's identity. They have no past intelligence background and have never been posted to an embassy in the West. MI5 has no way of knowing who the illegals are unless they make a mistake or are caught electronically - trapped by the sophisticated "ears" of GCHQ. Through its listening centres GCHQ had detected incoming high frequency Morse code signals from the Prague area for a long time. It was stated in court that van Haarlem was known to have received 200 coded signals in 13 years".

Little about his activities was revealed at his trial, but it is known that he was controlled by numbers in the form of Morse code sent from Prague. His radio was a popular SW receiver and was manually tuned. In 15 years he received 200 CW messages in 5 figure groups. These were decoded using one time pads. Three unused pads were found hidden in bars of soap which had been hollowed out. Three other one time pads were found hidden in his flat. It was one of these messages he was receiving when he was arrested, and several messages were read out in court. All the others remained impregnable. The messages read, "Prepare your report for hand over in Vienna, repeat Vienna. Indicate how you use the microfilm". "Regarding immigration, use your initiative". A second message read "Send only news about intended actions against the Czech Socialist Republic". Magazines in the flat contained addresses in Czechoslovakia, and there were chemicals for writing secret messages. In a wallet was a slip of paper which contained lists of coded dead-letter-boxes for leaving information. One which was code-named "Marx" was at the "Minstrel Boy" public house in Colney Hatch in a broken wall. Another was by a line of poplar trees on the edge of a golf-course.

Further information was found on how to obtain British nationality, Social Security help and birth certificates. It appeared that the only contact he would have with the Czech Embassy was via the illegals' support officer, but everyone in the Embassy denied all knowledge of him. Upon his arrest he asked the police to inform the Czech Embassy that he had been arrested.

"A spokesman for the Czech embassy yesterday continued to deny having heard of him".

How he was caught was not revealed but it is believed that a Czech defector gave him away, and his second trip to Russia had drawn the attention of immigration and Special Branch. A surveillance operation was mounted, lasting many months. Finally, when MI5 realised it had found its man, it launched an even bigger operation to gather evidence against him. A flat overlooking the back of his address was taken over by MI5 in August 1987. They used binoculars, probe microphones and telephoto lens cameras to watch him. His phone was tapped and his flat bugged as well as him being followed constantly.

"Neighbours spoke of a mystery team of people who moved in to a flat overlooking van Haarlem's. The men were seen carrying electronic equipment. Then, two days before the swoop, a suspicious builder's van stayed parked outside the Czech's flat".

The team in the flat consisted of four men and a woman who so alarmed neighbours that they informed Special Branch! A strange loop aerial had been put up and people said they saw lots of equipment in the flat as well as dense net curtains. They made lots of noise and spent much time moving heavy equipment around. The battery operated clocks in peoples' flats either stopped or went fast. People also found interference on their televisions with dots and dashes on the sound. Van Haarlem refused to tell investigators what information he had transmitted by Morse code to his "control" in Prague from his flat.

"Mrs Saint, 61 who coordinated the Neighbourhood Watch Scheme said she and her daughter had telephoned the police in November but were dismissed as nousey neighbours. She said that shortly after they moved in she heard strange noises and was perplexed by the "Morse code" interference which affected her TV set every night at 9.20. Mrs Saint's curiosity grew after she spotted her mysterious neighbours (MI5/Special Branch) carrying what looked like a box of electronic equipment into the flat. At first she thought it might be a computer but began to have her doubts when each night she noticed the strange TV interference".

She added: "At one time there was a lot of banging about and when I went to complain they seemed very anxious to know whether we had been able to hear what they had been saying.

"The man who answered the door claimed it was being used by his engineering company as a temporary office. "When I replied I knew something about that because my father had been a bridge builder, he gulped and became very flustered. There were other odd things too. For example, every morning at 6 A.M. their telephone would ring and this was answered immediately. "At Christmas, I went to the flat and asked if they would like to join us for a drink. The man who answered the door, peeking through a crack, thanked me but never turned up."

Three weeks after his arrest, the surveillance team moved out.

The authorities could not prove what he had passed on to his bosses or even that he passed any information on at all. What he was convicted of was the possession of the means to receive and transmit secret information and this earned him a ten year sentence in Parkhurst prison. He only served a fraction of his sentence as he was deported in 1992, probably due to the good relations now existing between the UK and Czechoslovakia. Perhaps he sent MI5 a postcard.....Any additional information about Erwin van Haarlem past or present would be appreciated.

Acknowledgments: Rob Evans for providing newspaper reports.

Court told of 200 coded messages

**Czechs
deny link
with spy
suspect**

**from Prague
MI5 swoop
nets a spy**

**Neighbour's
TV picked up
Morse code**

'Star Wars spy' caught receiving code message

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Eastern bloc illegals always spend time in the West to orientate themselves before infiltrating the country selected as a target

● GCHQ had detected incoming signals from the Prague area for a long time ●

for espionage. Van Haarlem spent more than two years in Austria working as a waiter and then attending a catering school

Morse code spy 'caught in act'

By John Weeks

A SPY for the Czech secret service was caught in the act of receiving a coded Morse message from his mas

M23 - The "ODD-EVEN STATION" (Part 1)

At last we have got round to featuring M23, a major numbers station without a family, and with some very peculiar habits. Not for nothing is it also known as the Chameleon station, for it has a bewildering variety of format variants. **NO OTHER STATION OPERATES IN THIS WAY.**

Transmissions are all in ICW, and use a quite distinctive 'staccato' auto-keying, where the relative lengths of dots, dashes and spaces aren't quite like those of other stations. A long zero is used, giving a clue to origin. The only other major stations using long zeroes are M4 (Swedish Rhapsody) and the now defunct M2 - NNN's busier morse 'arm'.

Basic Format

Very loosely, we can say that there is a 'primary' format, which occurs slightly more regularly than the others. Formats can vary to such an extent that the only thing two transmissions may have in common is the 'core' text, and its repeat sequence. Calls and endings can vary considerably. This 'core' text element, the message, consists of single 5f groups, of which some are not random. Usually, but not always, the first group is identical to the last (both included in GC) and usually this contains at least one zero, generally in the fourth place. The penultimate group is also significant in that it usually has zeroes in its last three or four places, and has even been 00000. These non-random groups clearly play no part in the message itself, and probably contain decryption instructions, the DK being part of the first/last group. (We'll have more to say on this later). Group counts tend to be in the medium range, averaging around 40.

This 'primary' format is one of the odd/even formats, where the 10min call is made up of a 3f schedule number which also serves as a null message indicator. Generally, 3 odd figures, e.g. 391, indicate that no message will follow, in which case the call cuts off abruptly after 10 minutes. However, when a message is to be sent, the call changes to three even numbers, e.g. 486. After 10 minutes, a pause is followed by = = (GC repeated once) = = (message follows) = = ? ? = = (GC, again sent twice) = = (repeat of message) = = AR AR.

We'll cover numerous variants in Part 2.

Scheduling

Scheduling is as varied as formats. Again, we'll only discuss here the 'primary' scheduling pattern, which is a little more frequent than the others. Two parallel frequencies are used, often chosen from a favoured selection. Parallels aren't consistent - one freq may share with several others at different times.

This tendency to use 'favoured' freqs. helps towards identification, seeing that formats cannot be entirely relied upon.

'Primary' schedules keep the same schedule numbers (odd or even depending on status) throughout their lives - (many other schedules do not). They operate daily or twice daily, usually on the hour; occasionally on the half-hour. Timing is hardly a strong point - transmissions may begin anywhere between h-3 to h+5min. Messages on these 'primary' schedules come under the rare/occasional/never category. i.e. the vast majority of calls use odd numbers. These schedules have lives which may vary from a few days to a year or more. The longest-running schedule we know of is still with us, having begun in February 1997: ID 579, 0800 & 1400 on 8307//9285. No messages have yet been sent. It is possible that some of these schedules never send messages, and act as some kind of daily status indicator. None of the schedules, primary or otherwise, have been found to follow any kind of cycle - never reappearing, say, a year later. Few stations behave in this way. This implies that they all relate to specific 'missions', which don't coincide with regular 'tours of duty'.

Frequencies noted so far: 3380 4630 4767 4800 4825 4893 5019 5080 5180 5349 5400 5540 5625 5665 6290 6520 6560 6870 6918 6999 7504 7520 7795 7830 7850 8307 9285 10200 10775 11346

Those underlined have been in use for many years. Possibly they all have, maybe some having years of intervening inactivity between one schedule and another.

Signals are usually strong in Europe, and transmitter faults and errors (apart from late/early starts), are unknown. In the next part we will attempt to cover the many variants of this station, and some of its wierder scheduling patterns.

J - 111/ 27/2 24/3 15/4 29/4 28/6 504
DZ - 111 13/3 14/3 30/3 7/4 19/4 20/5 23/5 27/6 944
PQ - 000

239 - 03607 57063 56355 31143 15660 18963 22567 86865 87334 05913
87499 50150 78340 72725 44423 63534 11748 25049 38868 97579
15265 03634 63049 27566 98613 00863 57480 16911 81807 15975
42616 60160 88723 65791 77295 38561 90542 64836 99462 13181
09873 45062 85492 59527 86391 33731 86935 05040 70316 38267
88689 96217 77845 26260 57285 45618 99392 44631 78328 94949
95637 23174 81050 78351 78888 41482 51724 89002 54738 14141
70572 56529 28403 75830 17399 26227 95744 12368 55734 36289
40403 18272 67831 54724 98562 06826 77381 84531 09573 90600
60327 49408 37148 60078 87994 25501 01549 92062 54774 64940=

718 - 8/621 9/984 10/029 11/115 12/232 1/677
111/6 111/7

"PAR CE SIGNE TU le VAINCRAS" nous disons...

NEWS ROUND UP - REPORTS OF INTEREST

► **RUSSIA - FOREIGN SPIES ACTIVE IN St PETERSBURG** - The results of the work of the Federal Security Service (FSS), in the opinion of the head of the directorate of the FSS for the St Petersburg and Leningrad Region, Viktor Cherkesov, "shows that foreign intelligence services are active in our country and that Russian special services have the opportunities, capabilities and means to combat them". The FSS had discovered and unmasked 29 agents of foreign intelligence services, which is in line with the postwar level.

One inhabitant of St Petersburg was found guilty in 1997 of treason and working for a foreign intelligence service with a system of tasks and proven acts of passing information. One other case of a Russian citizen cooperating with a foreign intelligence service came to light with the help of the local FSS directorate's confidential telephone line (278-69-93), which has received 400 calls in the past four months of its work. Every one of these calls resulted in the necessary consultation or check. A "resident agent" made a call on the confidential telephone line which made it easier for him to escape from the tutelage of his foreign recruiters.

► **LITHUANIA - INTELLIGENCE CHIEF CALLS FOR BETTER FUNDING** - The head of the Lithuanian State Security Department, Jurgis Jurgelis, has called for better funding for his service. In an interview in the 'Lietuvos Rytas' newspaper, Jurgelis said that counter-intelligence, security and analysis sections need to be expanded in particular. He admitted that the formation of an investigations service in the Ministry of Internal Affairs had weakened his department. Some divisions had lost many of their staff, including badly needed computer experts. Jurgelis said that the department had had successes in countering foreign agents in Lithuania and in conducting intelligence work abroad. The service claims to have detected safe houses (of intelligence agents) from several countries. Foreign spies in Lithuania are employing their usual cover: diplomatic, commercial and media. The exact number of staff employed by the service cannot be disclosed but they are now employing more women in the service. It was also stated that the Lithuanian intelligence service conducts activities abroad. We gather information about the political, economic and military situation in neighbouring countries. We pay special attention to the analysis and assessment of outside threats to Lithuania. We get a great deal of information from analysing the press, as well as the radio and TV broadcasts of those countries.

► **POLAND - RUSSIA REJECTS SPY ALLEGATIONS AGAINST DIPLOMATS IN POLAND** - A report in the Warsaw Daily Newspaper 'Zycie' claims that a list of 23 Russians who - according to anonymous informers were or are Russian intelligence agents. The majority of the Russians on the list have left Poland, but four remain. The brain behind the ring was the Russian ambassador in Poland, Yuriy Kashlev, who already ended his mission to Warsaw. The newspaper thinks that the Polish counter-intelligence service is helpless in the case: the Russians have technical resources many times in excess of those of the State Protection Office. The head of the press service of the Russian Foreign Intelligence Service Gen. Yuriy Kobaladze calls the revelations by 'Zycie' ridiculous and untrue. He did, however add "we are indeed interested in your country but our agents are not doing anything in Poland that Polish intelligence would not do in Russia".

► **BELARUS - SECURITY CHIEF CONCERNED OVER POLAND'S ALLEGED INCREASE IN SPY ACTIVITIES** - Minsk. "The Polish special services have started mass recruitment activities among Belarusian citizens," Chairman of the State Security Committee (KGB) Uladzimir Matskevich stated. He also said he was concerned that "an increase in this activity is under way". A larger number of Belarusians have turned to the KGB for assistance, he said. These facts testify "to a certain policy (pursued by Poland) at state level", he said. This activity by the Polish special services cannot continue forever and assume a scale threatening the national security of Belarus.

► **BRITAIN - PLANS FOR BRITISH EMBASSY IN UKRAINE ABANDONED** - Plans for the new British Embassy in Kiev had to be abandoned after the Ukrainians had asked HM Government not to go ahead. Reports indicate that the neighbour of the embassy would be no other than the Ukraine President, Leonid Kuchma. According to the Ukrainian Newspaper "British Diplomats might not be able to resist the temptation to listen to every word the president and his family said".

Our contributor says - I for one cannot think of anything so ungentlemanly as to eavesdrop on someone else conversation!

► **BRITAIN - MUSEUM OF SECRETS AT DEFENCE INTELLIGENCE CENTRE** - Recent revelations about Britain's best kept secret museum have recently come to light. It is located at the classified Defence Intelligence & Security Centre at Chicksands, Bedfordshire. The museum does not advertise itself. Its telephone number is not listed, nor available from Directory Enquiries. Local tourist information does not include its details. The museum is devoted to field intelligence, surveillance, observation, map-making and sketching, and from modern times, the interpretation of aerial photography.

The first of its two rooms traces the history of the Intelligence Corps from Henry VIII, who created the post of Scout-master 'to search and view that there be no enemies laid privily for annoyance'. The second room is rather more dramatic and houses the private Medmenham collection of aerial photographic intelligence materials. There are models of D-Day beaches, an exhibition of Operation Bodyline (which targeted the V1 and V2 rocket bases), a giant air camera, and modern light tables used to create minute accurate imagining from aerial photographs.

The museum has been asked to contribute to Bedfordshire's Millennium celebrations, but is unlikely to be a serious competitor to the Millennium Dome, although its contents may well offer more education.

The Defence Intelligence & Security Centre at Chicksands was formally known as RAF Chicksands - a cover name for the base which was part of the United States NSA operations in Europe. The base used to be home to a huge Wullenweber direction finding antenna (AN-FLR/9) which is now dismantled and the site now houses the new Special Wireless Section. Also of interest is a new shooting range, and a Psyops section, moved from MI6's training centre at Ashford, and expanded. The base is now home to the DIS which has two main parts, the Defence Intelligence Analysis Staff (DIAS) in Whitehall, and the Intelligence and Geographic Resources

Staff (IGRS), which has a headquarters element collocated with the DIAS, but the bulk of whose staff work in three DIS Agencies outside London.

These are the Defence Intelligence and Security Centre (DISC) based at Chicksands in Bedfordshire, the Joint Air Reconnaissance Intelligence Centre (JARIC) at Brampton, Cambridgeshire, and the Military Survey mainly based at Feltham Middlesex. The purpose of DIAS is to carry out All-Source Assessment using information gathered both in an overt or covert manner and to provide information to the MOD Ministers and Central Staffs, operational commands, the Permanent Joint Headquarters, NATO and other government departments.

If you are interested in visiting the museum do not simply turn up, but book your visit by telephoning UK 01462 - 752340, mentioning ENIGMA may not improve your chances of obtaining a pass!

► **CHINA - CHINESE SATELLITE SUFFERS JAMMING** A mysterious signal hitting a Chinese telecommunications satellite is disrupting share trading, earthquake monitoring systems, and pager services in China. Technicians had ruled out a problem with the Apstar-1 orbiter which had "suddenly received a signal of neutralizing interference from an unknown outside source," investigators had not ruled out that the Earth based interference was the result of an attack by domestic or foreign saboteurs. The disruption reportedly affected more than 400 securities and futures companies and 100 paging services, cutting off services to more than 10 million pager users. The use of satellites present their own series of problems and many countries maintain back-up HF systems (some like HEP and the large French network FDY/FDC etc. are still heard reserving channels, while other HF transmitters and feeders are moth-balled. Several recent events have again high-lighted the vulnerability of space communications. The United States are testing a laser beam which can be fired from earth simply blasting foreign intelligence satellites into oblivion. Recent TV reports indicate a test firing at an 'old' communications satellite. A gleeful US official described the system as capable of destroying something the size of a refrigerator from an Earth using the laser beam.

► **BRITAIN - RAF TESTS JAMMING TRANSMITTER** - A report carried on BBC Radio 2 news (and dropped from later bulletins) indicated that the RAF were conducting tests to deliberately jam the Global Positioning Satellite System (this allows any user to determine their position very accurately anywhere on the planet using only hand held domestic equipment). The report indicated that the system would be jammed in the event of (unspecified) conflict. During WWII Britain removed all its road signs in the event of an invasion, with a view to slowing down the enemy. Any attempts by enemy agents to travel around the UK now would surely be severely hampered by road works if they did eventually get off the M25!

► **BRITAIN - ASCENSION ISLAND HOME TO ELECTRONIC SPIES** Until 1982 virtually no one in Britain had ever heard of the Falkland Islands. Until then, Prime Minister Margaret Thatcher launched a mini-war to recover them from invasion by Argentina. Today fewer still will have heard of Ascension Island, a lump of volcanic rock situated 1,600 miles from Nigeria and 1,500 miles from Brazil in the middle of the Atlantic ocean. The location of Ascension and its unique administration makes it ideal for secret activities. There are no native people of Ascension at all. The island is a British possession and access is strictly controlled; passing yachtsmen have to obtain

permission to spend a night on the Island. The RAF are present and the Americans on the Island manage the huge airfield they built 50 years ago. The Island is home to the relay transmitters of the BBC World Service (operated by Foreign Office employees). Once the broadcasters had proven the value and isolation of Ascension, the electronic spies turned up, too. The Island they found, was a static free, people free listening post from which they could eavesdrop on every telephone call and radio message being conducted in Africa. A huge and deeply secret intercept station was built. According to recent reports it is "an Island crammed and jammed with fizzing aerials and humming radar domes and nodding scanners and blinking lights, with machinery that is working ceaselessly for spies." Sounds like the ideal Numbers Station location.

► **LUXEMBOURG - EUROPEAN PARLIAMENT DISCUSS "ECHELON"** - A recent report confirms for the first time the existence of the secretive ECHELON system, confirming that the citizens of Britain and other European states are subject to an intensity of surveillance far in excess of that imagined by most parliaments. The report - Assessing the Technologies of Political Control was commissioned by the Civil Liberties Committee of the European Parliament. It contains details of a network of American - controlled intelligence stations on British soil and around the world, that "routinely and indiscriminately" monitor countless phone, facsimile and email messages. It states: "Within Europe all email telephone and facsimile communications are routinely intercepted by the U.S.A. National Security Agency transferring all target information from the European mainland via the strategic hub of London then via satellite to Fort Meade in Maryland via the crucial hub at Menwith Hill in North Yorkshire". The report confirms for the first time the existence of the ECHELON system. Until now, evidence of such astounding technology has been patchy and anecdotal. ECHELON is designed primarily for non-military targets: governments, organisations and businesses in virtually every country. The system works by indiscriminately intercepting very large quantities of communications and then siphoning out what is valuable using artificial intelligence aids like MEMEX to find key words. Claims have also been made that ECHELON automatically analyses most email messages for "precursor" data which assists intelligence agencies to determine targets. According to former Canadian Security Establishment agent Mike Frost, a voice recognition system called Oratory has been used for some years to intercept diplomatic calls.

One of the NSA's bases, Menwith Hill, is the biggest spy station in the world. Its ears - known as radomes - are capable of listening to vast chunks of the communications spectrum throughout Europe and the former Soviet Union, in the first decade the base sucked in data from cables and microwave links running through a nearby Post Office tower, but the communications revolution of the Seventies and Eighties gave the base a capability that even its architects could scarcely have been able to imagine. With the creation of Intelsat and digital telecommunications, Menwith and other stations developed the capability to eavesdrop on an extensive scale on facsimile, telex and voice messages. Then, with the development of the Internet, electronic mail and electronic commerce, the listening posts were able to increase their monitoring capability to eavesdrop on an unprecedented spectrum of personal and business communication. This activity has been all but ignored by the UK Parliament. When Labour MP's raised questions about the activities of the NSA, the Government evoked secrecy rules. It has been the same for some 40 years.

► **ISRAEL - THE BRIGHT SIDE OF FOUL UPS** - Mossad has been big news recently. At least one (four were implicated) Mossad agent was recently arrested in Switzerland in a bugging operation which went awry. Last year Mossad agents operating in Jordan injected Khaled Mishal an Hamas leader with poisonous chemicals and only intervention by King Hussein forced Israel to supply an antidote to save Mishal's life. The attempt on Mishal's life failed when, instead of spraying the toxin into his ear, from where it should have travelled to his brain, causing haemorrhage and death, within six to eighteen hours, the poison struck his neck and collar. If things could not get worse Mossad agent Yehuda Gil was arrested after it was revealed he had supplied false intelligence reports, the results of which could have been almost sufficient to start a war between Israel and Syria. The combined effect has been the resignation of Mossad head Danny Yatom.

Problems at Mossad go back many years. In 1991 four Israelis were arrested during an attempt to bug the Iranian embassy in Nicosia in the dead of night. The four, widely reported to be Mossad agents, claimed they had been looking for a lavatory. They were released on payment of \$1,000 fines. Norway is also requesting that they be allowed to interrogate a former Mossad agent over his role in the assassination of Ahmad Bushiki, a waiter holding a Moroccan passport. Bushiki was mistaken for PLO security officer Ali Hassan Salameh. In 1993 Mossad admitted, "We never spared any effort to spot the real target but Salameh and Bushiki were so identical that one would think they were twins".

Scarred, tattered and temporarily headless, it would seem the once vaunted and mysterious Mossad is heading for the doghouse - exactly where spy agencies go when they don't shoot straight, fabricate intelligence reports and can't even tap a phone without getting caught. In a country where people are drawn to elite units, it appears the Mossad will have to make some drastic moves to invigorate its ranks and pull the best of Israeli youth into an organisation whose successes are shrouded in fog and whose failures are fodder for the media. Or does it?

Experts and former Mossad officials say that exposure, even bad exposure, can actually enhance the agency's image. "There is the flip side of all this," said Joseph Alpher, a former high-ranking Mossad official. "Publicity around certain activities may attract people who want to do this kind of work." But the increasing number of headlines detailing mishaps actually expose some of the Mossad agents real tasks. They really are going after terrorists in Arab countries. They really are in Europe eavesdropping on the enemy. They really are meeting with operatives in Parisian cafes. "Everybody knows that if a mishap happens then it means the Mossad is very busy. When you are busy and doing a lot of operations, then inevitably there will be mishaps. The only way to really tell if the failures have had an effect is to get the figures on recruitment into the Mossad. Don't hold your breath waiting for that statistic.

► **CUBA - MORE REVELATIONS FROM GRU DEFECTOR** The Cuban military has long run its own smaller but much more secret version of the Russians' Lourdes electronic spying base, a unit known as the Electronic Warfare Battalion. Cuba does

not get copies of the communications intercepted at Lourdes, only copies of Russian intelligence summaries on issues that could affect the Island's security," said Stanislav Lunev, 50, a former colonel in Soviet military intelligence (GRU) who defected in Washington in 1992 while working as a TASS news agency correspondent.

Adjoining the Russian base at El Wajay, nine miles southwest of Havana, is a Cuban-run "parallel signals intelligence operation". It is not clear just how powerful this centre is, but the defector said it could certainly pick up telephone and radio signals from Miami, 130 miles to the north. The Interior Ministry's General Directorate for intelligence runs a separate radio listening and transmitting post elsewhere on the Island, apparently to stay in touch with its spies abroad, the defector added. The report also indicates that the Soviet Union learned of U.S. battle plans in the Persian Gulf War in 1991, including the surprise "left hook" into Iraq, through the electronic spy network in Cuba. Moscow did not leak the plans to Baghdad at the time, but improved Russian-Iraqi relations may lead Moscow to be more friendly to President Saddam Hussein. Lunev said he had learned that Moscow was aware of Pentagon war plans when his GRU superiors asked him to analyse possible U.S. strategies based on secret cables sent by Moscow to the Soviet Embassy in Washington in late 1990 and early 1991. The cable summarised intercepts of U.S. communications, from chatter of U.S. warplane pilots in flight to the private telephone conversations of soldiers and their families. Lunev said he knew the information was from intercepts at Lourdes because of their coding, and because friends and officials at the GRU in Moscow had told him so when he had a holiday in Moscow soon after the war.

Lourdes also receives and collates intercepts by spy satellites, ships and planes in the Atlantic region, making it a fully fledged regional command and control centre with some 2,000 Russian staff. U.S. officials reportedly suspect that Russian intelligence agents have recently been spying on the U.N. teams inspecting Iraq's chemical and biological weapon sites, apparently to help Baghdad.

Moscow's Lourdes spy centre in Cuba which was built by the GRU in the 1970s is far bigger than publicly known, a "monster" that collates data intercepted by Russian spy satellites, ships and planes in the entire Atlantic region. A CIA spokesman would not comment on the claims but other U.S. intelligence experts said Lunev's description of Lourdes was on target and that he is a serious defector who has lectured at the Pentagon, CIA and NSA, which is in charge of U.S. electronic eavesdropping.

► **BRITAIN - SPYING OUT A NEW POSITION** - Britain's spymasters are recruiting again, this time with an anti-ageist approach. An advertisement in a South London newspaper, which covers MI5's Thames House HQ, targeted older people looking for jobs as administrative assistants with MI5 at a salary of £11,228. It said: In an era of 25 year- old whizkids, it is natural to feel a few grey hairs do not enhance your employment prospects. Natural but wrong. But it cautioned: Try to avoid telling too many people about your application because discretion is a serious part of working for the security service.' GCHQ entered the 1997 "Human Resources Excellence Awards" and were successful in winning an Award for Significant HR Achievement Under Difficult Circumstances. As GCHQ has become more market-facing and business-led, HR has played a key role in driving and supporting change. A number of personnel reforms have taken place under the umbrella of "The People Programme" which is underpinned by the GCHQ core competency framework.

► **RUSSIA - FOREIGN INTELLIGENCE SERVICE 'COMMENTS'**

Yuriy Kobaladze head of the public and media relations bureau of the Russian Foreign Intelligence service was recently interviewed on Russian Radio. Points of interest to ENIGMA readers are detailed.

(Q) Over the past few years, since the end of the Cold War, you have repeatedly said that industrial espionage is playing an important role.

(A) I would not like to single out industrial espionage. Everyone knows we have the Foreign Intelligence Service and it continues to operate. But I have not heard of Paris, Washington or London disbanding their special services. On the contrary, we have official statements which show that, following the disappearance of the Soviet Union from the political map, the interests in Russia and other CIS countries has not decreased. We are not doing anything in London, Washington or Paris that the British, Americans or the French would not do in Moscow.....

(Q) What other countries are operating against Russia?

(A) The number of countries engaged in intensive operations in Russia had increased and included Iran, China and North Korea. Most enterprises in which foreign secret services show interest are situated in the Moscow Region.

(Q) Is Russian intelligence stepping up its activities?

(A) No, it is not. Our major task is now restricted to gathering information about the countries where we operate, without interfering in their internal affairs.

(Q) When the FIS was part of the KGB, it was all called a power-wielding body. But is this the case today?

(A) No, we are a special service, but we are not a power wielding body. Moreover, I would like to emphasize that we are not a law-enforcement agency. We do not catch anyone, neither have we anyone under surveillance. We operate abroad and we have no commandos capable of carrying out tasks that the former KGB used to carry out.

► **VATICAN CITY - MURDER SHEDS LIGHT ON SPIES IN THE VATICAN**

The Vatican City long time suspect of a Number Station operation was thrust into the spotlight recently when Swiss guard Vice-Corporal Cedric Tornay ,23, was accused of killing Colonel Alois Estermann, 44, and his wife Gladys, 49. Tornay's suicide note contained the ambiguous remark that "they" had forced him to commit the murder. A report in 'Berliner Kurier' claims that Estermann, was a Stasi informer recruited in 1979 in Berne. From 1980 he was in the Vatican service, at the same time delivering information to German spymaster Markus Wolf. A spokesman for the former Stasi archives would only confirm that the East Germans had an agent in the Vatican between 1981 and 1984. His codename was "Werder".

Alarmed by the appointment of a Polish pontif and his support for the Polish Solidarity trade union, the Warsaw Pact intelligence community targeted the Vatican. Polish, Hungarian, Czechoslovakian & Lithuanian priests were studied for their blackmail potential. Bulgarians were implicated in the plot to kill the Pope on May 13, 1981; they were connected with the Rome offices of Eastern European airlines. Passenger lists yielded useful information about Vatican employees who were en route to the East, and some employees acted as links between Vatican informers and their spy centres.

The intensity of the spying suggests that all parts of the Vatican were interesting for Eastern intelligence services: the bank (known as the Institute for Religious Works), the various secretariats the secret archives and the Swiss Guard.

The close cooperation between the CIA and the Vatican during the 1980s stirred the interest of the Soviet-bloc spy agencies. The Pope was given access to satellite information, electronic eavesdropping reports and summaries of policy discussions at the White House, the State Department and the CIA. Between 1981 and 1988 General Vernon Walters, a former CIA deputy director, was received seven times by the Pope for personal briefings. Vatican officials received classified information from the United States on Poland, Lithuania, Central America, on terrorism, on Chinese military power, on American and Soviet nuclear weaponry, and even on the nuclear ambitions of Pakistan (in the news again recently). The flow of information was naturally of some fascination to Moscow and its allies.

► NATO - HUNGARY/CZECH REPUBLIC/POLAND: A report in the German news magazine "Spiegel" (Mirror) reported that the countries joining NATO - Hungary/Czech Republic & Poland would still continue to send agents to other NATO partner countries. Military strengths will remain of particular interest, the report stated. The local "Mitteldeutsche Zeitung" reported that the Spiegel's story had been confirmed by German government officials in Bonn, but Radio Budapest's German service reported that the allegations were denied by the Bonn government.

► GERMANY - COMPUTER CONTAINING SECRETS GOES MISSING A crisis in the German state of Thuringia erupted when the Ministry of Interior relocated and lost two computers. The hard discs contained secret information from the Verfassungsschutz about Scientology, "V-men", and others. Officers of the Ministry should not have stored such information on computer disc. The trouble did not end there, when an unknown person entered the building and stole some documents. In the United States an unknown person entered the office of Secretary of State Madeleine Albright, leaving with documents. The FBI are investigating.

► AUSTRALIA - UNITED STATES/AUSTRALIA SIGN NEW TREATY - The United States and Australia have signed a 10 - year renewal on the joint use of a spy facility in the Australian Outback. Foreign Minister Alexander Downer and U.S. Ambassador Genta Hawkins Holmes signed the renewal of the Pine gap treaty, originally signed in 1967. Defence Minister, Ian McLachlan said, "This extension reflects the value of the Pine gap facility." It was used during the 1991 Gulf War to monitor Iraqi missile launches and troop movements.

● Acknowledgements for this section: Reuters, Wired Ventures, Inc. Mail on Sunday Newspaper, Intercepts via 'D', BBC Radio 2, Simon Winchester/Island Magazine, Mike in Kent, Paul in London, Simon Davies/Daily Telegraph Newspaper, Ken in Doncaster, Jerusalem Post Newspaper, Arabic News. Juan O.Tamayo/Miami Herald, Washington Post, Andreas in Germany, Roger Boyes in Bonn.

PLEASE SEND YOUR NEWS REPORTS TO OUR USUAL ADDRESS.

THANK YOU

Some notes on Direction Finding

by M.G.

We are still intending to produce practical instructions for a reasonably reliable DF aerial and goniometer. However, until we get ENIGMA HQ's own DF facilities set up and working, we've decided to withhold these. In the meantime, this short article is intended to introduce the subject to those of you with little knowledge of professional DF systems.

Accurate direction finding on HF is no easy matter. This is why Non-Directional Beacons, Decca (used for aeronautical - and maritime - navigation), and Datatrack (used by security companies etc.) operate on LF/MF. As we all know HF is subject to all kinds of propagational effects - which never remain constant: day/night effects, multiple path, sun-spot cycle, fading, phase distortion etc. Without sophisticated DF facilities - and, at times, even with them - unreliable results and low accuracy are to be expected.

Several of you have referred to using commercially available "HF loops". Little success can be achieved with these, especially above about 3-5MHz at night, or 4-7MHz during the day (very approximate - depends on conditions). It's not worth attempting to DF a weak, fading station, at any time. A strong AM or Morse station with steady carrier has a higher degree of success. A sharp null is required, which corresponds to the "crossing" in the figure 8 polar diagram. Single loops of this kind rarely provide sharp enough nulls on HF, leading to a very wide angle aperture. Ideally we need better than 2 degrees. Loops may provide 10 degrees at best. A sense aerial is also required to determine the "sense" i.e. to eliminate the ambiguous reciprocal bearing associated with a loop's second null. The combination of the two aerials produces a cardioid polar diagram, however, its null is not as sharp as in the "figure of 8", so the sense aerial needs to be switched out when not needed. In Britain, where most Numbers stations emanate from Continental Europe, a sense aerial is less often needed as we know that most of our DF work involves the 45-115deg sector, and we can safely ignore reciprocal bearings. However, in Central Europe 360deg coverage is essential and a sense aerial absolutely necessary.

One bearing doesn't make a "fix", of course. Two or preferably three or more bearings are required, with long base lines between monitoring sites - hundreds of miles/km when the target transmitter is a comparable distance away. Narrow and wide intercept angles give increasingly poor fixes. Ideally, for minimum error an intercept angle between two sites needs to be within approx. 65-115 degrees. Co-ordination between monitors is also needed. Known probable sites in the target zone can then be eliminated (or not!), and unknown sites sought out by various means. Final confirmation comes from visiting the suspect site with a field strength meter or crystal set!

Professional monitoring agencies at their fixed sites use three main types of DF aerial, all non-rotatable:

1. Adcock (& variants) - used extensively in WWII. 360deg coverage. Good results on small land area. An important variant is the CDAA (circularly-disposed antenna array) 360deg. More land needed. Used with dual diversity receivers and automated (fast motor-driven) goniometers. Accurate to <1deg. Can respond to "burst" transmissions, and can be adapted to plot and store real-time spectrum use. Widely used by monitoring agencies. Used by NSA at Menwith Hill, CSO at Irton Moor etc., DTI at Baldock (2), and until recently by the Foreign Office at Poundon.
3. Phased loop array. A series of fixed crossed loops aligned in a particular direction. About 110deg coverage. Two at right angles - 360deg. Examples can be seen at RN Forest Moor, RN Southwick etc., and until recently at HMGCC Poundon.
4. HF interferometer - about 110deg coverage. High resolution. Needs a large long strip of land - a mile or so. The one at CSOS Cheadle is aligned N-S providing optimum coverage of Europe.

All these aeriels, being fixed, are rotated electronically by goniometers - angle-measuring/phase-changing devices. The basic type, as used with an Adcock, consists of two fixed coils at right angles to each other - with a central, manually-rotated search coil attached to a dial calibrated in degrees - which are aligned with True North.

The only practical HF DF system we can use is the Adcock-derived aerial and goniometer. This consists of four vertical aperiodic (untuned) elements - rigid rods or wire attached to rigid wooden poles. Each element is mounted at the corner of a square - about 4m sides or more. Four equal lengths of 50ohm coaxial cable are used to link each element with the two stator coils of the gonio, their outer sheaths being attached to earth spikes at the base of each element, which may be joined together underground with bare wire. Throughout, the only critical consideration is the symmetry. As far as possible, everything must be symmetrical - square, feeder lengths, earthing, gonio coils. The square need not be aligned with True North, as the gonio dial can be calibrated by using bearings of known (strong) transmissions.

Many thanks to all of you who have written in. If your contributions haven't been included in this issue, this doesn't mean that they have been ignored. They will be made use of in the future. Special thanks go to Paul (for his excellent embassy and intelligence reports), Andreas, Hans-Friedrich, Guy (for the usual!), Vassily, Rob, Richard, and the member who sent in the RIMNET details, and many more whose names escape me...

ODDS AND ENDS.....

Some things just don't slot into a particular section so we will cover them on this special page.

① NEXT SOUTH-EAST MEETING - Following a successful meeting held on WED March 11th which was described as pleasant, informative and stimulating, a further meeting will be held in September. Remember, all are welcome. If you are interested please drop a note to the ENIGMA office and Mike (VC) will contact you or you can email him at <enigma.box@centrenet.co.uk>

The venue will move around in order to attract more members. Next meeting details are: WED 9th SEPTEMBER 1998 - 7.30 PM, "The Rubbing House" public house (Nr Epsom Downs Race-track, well sign-posted) Off M25 at Junction 8 onto A217, London bound (easily found at the junction of 3 roads well in the clear) Easy access from M25, M23, M3, A3 and many minor roads. It is planned to hold two meetings per year.

② SHORTWAVE MAGAZINE - The British news stand magazine 'Shortwave Magazine' have agreed for ENIGMA to carry a Numbers Page every other month, the first was published in April. We would like to welcome new readers to ENIGMA who responded to the feature. The Numbers page will aim to promote the subject and carries the ENIGMA mailing address.

③ BACK ISSUES OF ENIGMA - We had an excellent response (thank you) to the re-print of back issues. We now have very few of the lower (1-10) issues left. In future we hope to be able to offer the previous 3 issues (e.g. 12, 13, 14, at present) for purchase. The publication of our ENIGMA Booklet should help to overcome the problems of searching for information through numerous back copies.

④ INTERNET COVERAGE - We mentioned in the last issue that Mike (VC) spends a great deal of time searching and sifting through Internet material from a wide variety of sources. The Internet has developed at an alarming rate in recent years. We would like to ask readers (connected up or not) what information/addresses/coverage they would like. In recent issues we have mentioned sites of interest. Would readers like to have more sites/subjects listed or less? Or are we telling you about things which are of interest or not? Please let us know.

⑤ RECORDINGS/HISTORICAL INFORMATION - Just a note to remind readers that we are still very interested in receiving any recordings of inactive stations and also any information about Number Stations of an historical nature. We are continuing to build up a picture of the evolution of certain stations. All information appreciated.

⑥ CORRECTIONS TO ISSUE 14 -

Simon Mason Writes - Page 39 Para. 4. The reference to jamming of Phonetic Alphabet stations incorrectly referred to (E15) this should have read (E10). Typo error by ENIGMA - not Simon.

News Round Up - Page 44. The reference to "Agents for Peace Call For Justice" Initiative Group" - the address omitted the city of Bonn. Full address is: Klaus von Raussendorff, An der Nesselburg 91, Bonn 53179, GERMANY.

Radio in the Gehlen Organisation - Page 59. Para. 2. The reference to an "emergency receiver was tuned to prearranged wavelengths and hidden amongst the aerials of Radio Free Europe". Should, of course, have read "an emergency transmitter". The usual abbreviation for Organisation Gehlen is not "Org" but OG. The reference to Wittenberg should have read Wittenberge, a northern town.

MESSAGE FOR 'D' Please continue to supply 'Intelligence Monitor' pages from JIR - plus any back copies. Thanks for all other information. Still awaiting contact address. We cannot publish certain information due to lack of verification.

E3 (Lincolnshire Poacher) Headers sent over period 1.5.95 to 30.11.95

Message Period	Schedule														
	A	B	C	D1	D2	D3	E	F	G	H1	H2	H3	I1	I2	I3 cont.
1.5.95	79891	00283	59922	43469	64793	-	76728	80368	65182	23092	26225	--	49656	49639	49589
15.5.95	84231	79127	30253	98243	36695	67894	76750	45694	92099	72685	65742	-	21224	21267	21263
1.6.95	61259	97581	66960	37410	64793	-	73424	46427	44808	00374	63742	-	51404	51423	-
15.6.95	76525	79575	39694	43566	-	-	41704	92265	04860	04766	01362	-	43702	43786	43790
1.7.95	61015	65297	17341	83047	-	-	01609	90752	52547	01362	-	-	84017	-	-
15.7.95	04454	07982	02928	43129	25602	-	05396	92371	73494	83318	42324	57330	49326	49394	-
1.8.95	44333	47630	26795	35734	83047	-	02441	40984	21769	01362	17438	-	68697	68540	-
15.8.95	33238	24378	07601	36695	17032	-	09375	01090	13053	99424	93318	33214	20196	20086	99364
1.9.95	00768	42613	75086	70003	18713	-	69701	81913	05991	13805	70775	78417	95255	95222	95127
15.9.95	90792	88364	02044	31454	13308	55542	32966	51814	53768	29246	78524	-	01966	01885	01954
1.10.95	86656	60075	90335	32864	46967	27905	78750	82001	26764	31180	61232	99424	86476	86483	86471
15.10.95	63467	64593	39715	66391	65342	-	12729	20309	51478	33414	00617	06095	74294	74219	74399
1.11.95	16957	28773	26818	70412	-	-	43479	50974	88997	96270	68013	19347	28275	-	-
15.11.95	79171	44173	38418	35242	34420	-	91950	04257	61614	77576	05285	-	31648	-	-

The above sample has been chosen as it shows maximum use of the multiple-message schedules: D, H & I. Certain significant features have been underlined. Until recently E3 headers were believed to be random - they are not entirely so. Note the same headers being repeated in D, H & I, e.g. H2 msg. 01362, 2nd of the 15.6 m.p., was repeated for the whole of the 1.7 m.p. and again for the 1st of the 1.8 m.p. Multiple I messages carry the same first 2 or 3 header digits, yet this does not apply to D & H. More significant still is that some headers begin with the same 3 digits exactly a year later. Two cases were noted when the second came exactly a month after the first. 58009 occurred in the 2nd August m.p. of 1996 and 1997. These patterns were mainly observed between 96/97, but also 97/98, yet not before 1996. All this refers to G headers. F - nothing significant. E - 1.5.95 & 15.5.95 both start 767**, and 15.2.97 & 15.6.97 were both 03022 - coincidence? C - 205** was noted 15.7.97 & 1.7.96; 55135 on 15.3.97 & 15.3.98 - no coincidence. 72371 on 15.2.95 & 15.3.95. B - twice 1st 3 digits repeat, probably coincidence. A - 007** noted 1.9.95 & 1.9.96, 907** : 15.9.95 & 15.9.96, 267** : 1.12.95/96, 634** : 15.10.95/96, 169** : 1.11.95/96, 758** : 15.12.95/96. Others don't fit the 1 year rule: 131** 15.8.96/ 1.5.96, 188** 1.7.96/15.2.97, 443** 1.8.95/15.1.98, 729** 15.7.96/1.3.98/1.4.95, 866** 1.6.95/1.10.95/1.10.96 (the last also with a 1 year 'fit'). As G 96/97 and 97/98, and A 95/96 headers are related, could A have had a task which was later taken over by G. If so, this would make transmissions even more difficult to follow. Thanks go to Andreas for his meticulous long-term monitoring of E3, and these new discoveries.

m.p.	I3	I4	I5
1.5	49589	-	-
15.5	21263	-	-
1.6	-	-	-
15.6	43790	-	-
1.7	-	-	-
15.7	-	-	-
1.8	-	-	-
15.8	99364	-	-
1.9	95127	-	-
15.9	01954	01891	-
1.10	86471	86447	86439
15.10	74399	74345	-
1.11	-	-	-
15.11	-	-	-